

INTERNATIONAL

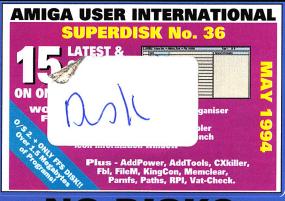
FREE SOFTWARE WORTH

£75



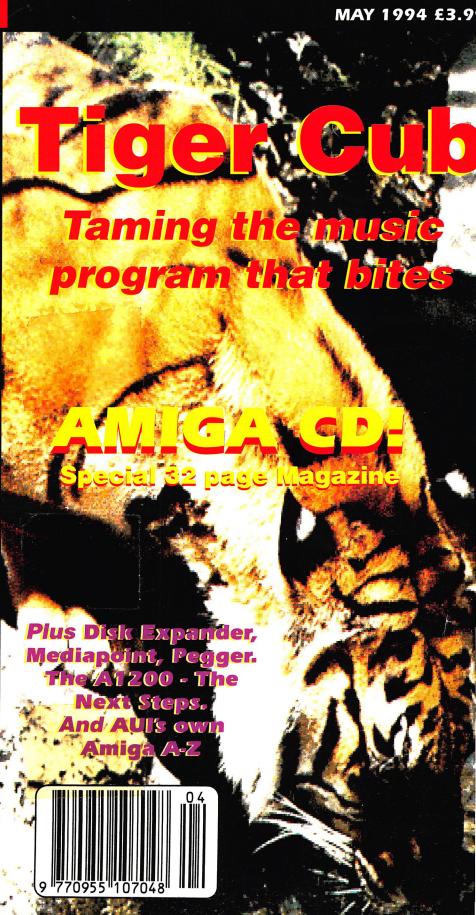
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NO DISK?

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WARNING

Due to the exchange rate, or manufacturer's changes or due to current Uue to the exchange rate, or manutacturer's changes or due to current
RAM shortage, some prices may alter, either up or down, during the
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Autoscan 1483 LLADS. 294.99 1 year NEEDS ADAPTOR 19.99	C	BM 1084 sd		199.90)	1 year	PiP M
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CD32 CONSOLE

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Create your own designs to incorporate into your AMOS progs

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"THE BUG"

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Includes top games like Battlecars, Star Trek, Compute Conflict, Megaboll, dozens of arcade classics, board classics and 'shoot-em-ups', Utilities, Word Processor, Spreadsheet, Database + Desktop Publisher and the ultimate virus killers - a must for every Amiga owner!

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Wordsworth 2 AGA. **Deluxe Paint IV AGA** Digita Print Manage Dennis the Menace AGA Oscar AGA

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PHIC

2 'Hot list' titles

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ALONE

uments including graphics in up to 256 000 colours

World Circket
Bart Simpson
Spiderman/Cptn America ‡ @
Arcade Trivia
Xenon - C+VG Game of the Month
Blade Warrior - A Power, AF, AActic
superb reviews Arnie AWARD WINNERS

Space Ace, Kick Off, PipeMania, Popu (counts as 2)

PARTICULARLY SUITABLE FO CHILDREN (MAY NEED HELP) @ NOT A1200 COMPATIBLE TITLES MAY VARY

*DPIII needs 2MB for animation on HD m

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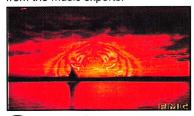
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CONSTANT FACTORS

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Managing Editor Antony Jacobson, comments on the coming of 'killer applications' that are not about shoot-'em-ups and predicts some major changes for Amiga users.

Superdisk No.35
Paul Overaa guides you
through this month's amazing offering, the FULL Dr T's Tiger Cub - the
great, easy-to-use music program
from the music experts.



Amiga CD! No.2

After the roaring success of last month's world first, we've got a world second - including another massive 500 megabytes plus compact disc for CD 32 owners. This month, there are more demos, 12, yes 12, full games and even loads of real live video. Ashley Cotter-Cairns and the Amiga CD! team give you the lowdown.

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For those who haven't yet the pleasures an Amiga CD 32, there's Superdisk 36. Gideon Overhead explains the mammoth 15 programs we've crammed onto this month's SuperDisk.

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TELL US WHAT'S WHAT SURVEY!

AUI constantly gets great letters, but we want to hear all your views. If you fill in (and send us!) the reader survey in the Amiga CD Magazine, it will help us give you even more of what you want.

ARexx Info Advice on how to ensure your ARexx scripts will remain usable across programs. Informatively supplied by Paul Overaa.

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Appliances of Science

David Taylor reviews Electronics, a book that looks beneath the surface of a world we take for granted. PLUS! Ten copies of this new publication to

68000 Assembly Language



Paul Overaa wades through a great manual for the technically inclined.

Entertainment Now!

David Taylor and Andy Moss review the games: Brian The Lion (Psygnosis) Liberation (Mindscape)
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Tiger Cub ■ If you think you're a great musical talent and you want to go even further than the marvellous Tiger Cub then Dr T's is making it easy for you with a very special offer.

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...And What They Used

Commodore's Amiga A3000, A2000, A500, Citizen's Swift 240C, Canon's BH-20 Bubblejet, Consultron's CrossDOS, Electronic Art's Deluxe Paint IV, Gold Disk's Professional Page, GVP's A530 Turbo, Toshiba's IDE drive, Supra's V32 Fax Modem, Datel's Action Replay MKIII, ASDG's Art Department Professional, Epson's GT-Aft Department Professional, Epsoin's G1-6500 colour flatbed scanner, Readysoft's AMAX, OpalTech's Opalvision, Innovatronic's Directory Opus, JCL's ColourPic Plus and Cabaret, John Veldthuis' VirusChecker, JVC's HR-D980 Video Recorder, Micro-System's Scribble!, Macro Systems VLAB, 32bit RAM from First Choice Computers, Discovery Software's Grabbit

Amiga CD! Magazine

Managing Editor: Antony Jacobson Editor: Ashley Cotter-Cairns Design: Graham Baldock

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The Amiga Dimension

Did we creep up on you last month with that "World First" - the first ever interactive Amiga magazine on a CD? We seem to have surprised quite a lot of people. Apart from a somewhat injudiciously incorrect comment in another Amiga magazine, not too many had taken notice of our openly stated intention of putting an interactive CD on the cover of our magazine. Perhaps they didn't believe we could do it. But we did and if you look in the Write To Reply pages of this issue, you will see that it is already arousing plenty of comment from you.

Your letters are always welcome, whether approving or criticising, they help us to know if we are giving you what you want. And in the pull out Amiga CD! magazine there is a Readers' Survey that I hope you will fill in and send us. That's if you don't want to write to Bud Vennos for his not always polite replies.

And it has woken up the Amiga industry too. Not since I was the launch editor of the first Amiga magazine to emerge in Europe has there been so much interest. The interactive CD has led us into something new. Those of you who have read my columns over the years will know that I have expressed concern that the British software companies, particularly the games houses, might be too small - or too small minded - to play a significant role in the coming, expanding computer world. In a way, I was hoist on my own petard. The production of an interactive, multimedia CD with 650 megabytes of available space is such a huge undertaking that we had not really understood what we were getting ourselves into. This is even more true of the CD on the cover of this magazine. For though we learnt a lot in creating the "World First", outdoing it has drawn us toward a whole new area of activity. For now, as I have said about the situation facing the games houses, we are going to be judged by standards not just of conventional publishing but of the big screen and the small screen - movies and TV. And I accept that no-one cares a damn about the pioneering we are doing and the present technical limitations of the CD on the Amiga we face. It's the results that count.

For example, the two megs of chip RAM available in the Amiga CD would have seemed a lot at one time but now for our multimedia purposes, it's not really enough. Interestingly, rumours have reached us from the USA that Commodore may be dealing with this problem. Is another meg of fast RAM on the way perhaps for the CD 32? We could do with it.

At the time of writing, the increasing response we are getting to the interactive CD makes me think that we may have created something that people have been saying for a long time was needed for multimedia to be a success: a "Killer" application; a reason for buying multimedia that would take the public by storm.

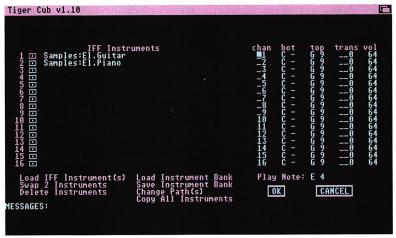
It is generally admitted that no "killer' application exists. But maybe it does now. Perhaps the idea of having a magazine, a whole range of interactive, easily accessible material on a disc that's relatively cheap and fun to use could just be the "killer" that jumps the market forward. After all think how big a business magazine publishing is. Why shouldn't interactive publishing grab a mass public too?

Of course, that the public would need to able to get at the disc and not too many yet possess a machine to run it on. And how many buy an Amiga CD 32 - and the FMV add-on to give it more than the quarter screen or so that we can presently use for video material - depends to a large extent on how successful Commodore is in selling the machine. But after the recent excitement which the Amiga CD! disc has caused among both experienced Amiga users and people who had no previous knowledge of CD-based multimedia, I can't help feeling that all of us are really about to see a pretty big change happen. That especially applies to Amiga users, because we are naturally keen on what we can do with machines like the Amiga. Many of those who have contacted AUI about the Amiga CD! disc appear not only to have an Amiga CD 32 but also an Amiga. I'm not surprised, Amiga loyalty runs deep.

I believe that once you experience what you can have and do with such a massive amount of memory on such a simple to use medium, the whole Amiga dimension expands enormously. I think we are seeing as big a jump forward as the Amiga itself was. And that is an exciting idea of possibly killing proportions.

Antony Jacobson Managing Editor

AUSuperdis



Tiger Cub's IFF samples details page.

Paul Overaa explains how to get to get the best out of the marvellous Tiger Cub music package that's on this month's AUI cover.

e're not going to waste space running through the things that Tiger Cub can do-for these details look at the full review on page 40 in this **AUI**. These instructions are simply to get you to the point where you'll be able to do something useful with the Tiger Cub coverdisk.

Although Tiger Cub is a Midi sequencer, it can use internal sounds, so you do not need to have any Midi equipment in order to use it. If, however, you DO have Midi gear then before booting up you should connect your Midi interface and synthesizer/ expander units. In the simplest cases this will involve connecting one lead from the Midi-Out of the Midi interface to the Midi-In of the sequencer and another from the Midi-Out of the synthesizer to the Midi-In of the interface.

When Tiger Cub boots you'll be presented with a requester that shows the available memory on your system as a number of 'sequencer events'. You can adjust Tiger Cub's overall memory use at this point, but for this demo all you really need to do is click on the 'OK' gadget. Tiger Cub's title page will appear followed shortly afterwards by the tape-recorder display page. The top area of this page provides space for the details of the twelve tracks that Tiger Cub uses for

recording sequences. Beneath this you'll notice a set of six tape recorder style buttons (just below the centre of the screen) and these are the main record/play controls. From left to right they represent record, rewind, fast forward, stop, play and pause controls.

Tutorial

Many of Tiger Cub's functions are accessed through a set of menus. These operate like other Amiga programs except for one additional twist. Because Tiger Cub uses the right mouse button for editing, the button cannot be used to show the menu strip at all times. Instead you need to move the mouse so that the cursor goes to the top of the screen BEFORE pressing the right mouse button. Once the menu strip appears everything will then work as normal so move the mouse to the top of the screen, press the right mouse button, select the 'Open...' option from the Project Menu and then select the Tiger Cub example file called Invent1.CUB (files with CUB filename extensions are Tiger Cub sequence files). Click on Load and the music will load into tracks 1 and 2 of the sequencer.

You'll notice from the tracklist details that track 1 is set to Midi channel 1 and that track 2 is set to Midi channel 2. You also notice that the

Tiger CUL

button on the far left, the record control, is 'on' and that a *RECORD* message is now flashing on track 3 of the tracklist display. This is because Tiger Cub has identified track 3 as the next available track to record on. The best way to get a feel for Tiger Cub initially is just to load a song and play it. So, for the moment, click on the 'record' button (the button on the far left of the tape deck controls) once to turn it off. What happens now will depend on whether you've got Midi equipment or not.

Playing Via Internal Sounds

You will need to load some sampled sounds in order to hear anything. Using the Utilities Menu select the 'Internal Sounds...' option. This will take you to a display that provides space for 16 8SVX IFF instruments. Click on 'Load IFF Instrument(s)', then use the requester that appears to select a couple of voices (eg a guitar and a piano). Once both samples have been loaded click on 'Done' and you'll see details of

your samples in the first two entries of the display. On the left hand side of the Internal sounds display you will see channel numbers 1 and 2 associated with IFF instruments 1 and 2. Alternative internal voice <-> channel assignments can be entered at this time but for our example just click on 'OK' to accept the default assignments. You can then play the example in a number of ways. You can

click on the tape recorder gadget that is in the bottom left of the editor screen, and then when the tape deck screen appears press the 'play' control. Alternatively you can use the space bar to start and stop the sequence playing (playing starts from the beginning). Lastly, you can just press the right mouse button once to play and then once again to stop.

These latter methods work from either the graphic editor or the tape deck displays and with the right mouse method within the graphic editor playing starts from the bar/beat position indicated by the mouse. Whichever playback methods you choose the result should be the same - you'll hear some nice two part Bach harmony work in action.

Playing Via Midi

If you have your Midi gear permanently set up to a particular channel voice arrangement then you may want to change the Midi channels of the example's two tracks so that they correspond to channels that your equip-



The main tape-deck display after the Invent1 example had been loaded. In this case the second track was set to Midi channel 15.

NO. 35

Track 1 display after the second bar had been pasted in.

ment is already set to. To do this click on the 'Edit' gadget (you'll find this on the far left of the tape-recorder control panel) and this will take you to Tiger Cub's graphic editor. In the top left corner of this display you'll see a track indicator showing 'Tr<1>', indicating that the current display represents track 1. By using the backward and forward arrow indicators (< and >) you can select the edit screen of any of the sequencer tracks.

Moving from left to right along this indicator strip you'll see the track name (R.Hand), MU and SO labels which indicate the current Mute On/ Off and Solo On/Off status conditions for the track and immediately to the right of these you'll see a 'Ch <1>' indicator. This gives the current channel number for the track and again by using the backward and forward arrow indicators (< and >) you can change the channel setting. What Midi users need to do is select tracks 1 and 2 in turn and reset the Midi channel setting so that the example song is suitable for their equipment.

Then you can play the song using any of the methods described in the previous section.

Experimenting

Having got one example to play the next stage is easy. Load some other examples and experiment. Tiger Cub can not only load its own CUB format files, but can handle Midi files, SMUS files and KCS ALL files. You'll find the options for loading the various file types in Tiger Cub's Project Menu so also try loading any other example files you can find. Midi users can practice resetting channels etc, non-Midi users can play around by loading songs and assigning different sound samples.

On the far right of the taperecorder display you'll find a CUE

The track 1 display after the first three notes of Three Blind Mice had been entered using the graphic editor.

gadget and beneath it two more gadgets that contain bar numbers. These numbers, which can be adjusted by the up/down side buttons on each gadget, set start and end cue points which enable you to repeatedly loop through a portion of the sequence. If, for example, you set the upper (starting) cue point to 5 and the lower (ending) cue point to 6 then when the main cue gadget is selected playback will continuously loop through bars 5 and 6 of the sequence.

Recording

Before recording a song you have to set a track length. Pull down the project menu, select 'New', enter a value representing the bar length of the sequence you wish to create and then click on OK. Recording for Midi users is easy. You can either just press the 'record' button and start playing, or you can press 'record' and then hit the start' button before starting to play. This is useful if you want a metronome count-in before you start. Tiger Cub has an Environment page that is accessed from the Utilities menu - if you make sure that the 'Count-in' value is set to 4 then you'll get a four beat count in before recording starts. Once you've recorded something in this way you can play it back in just the same way as previously.

Non Midi users will not be able to record anything from the tape-recorder screen because as far as recording goes this is geared up solely for Midi use. It is possible, however, to create songs using Tiger Cub's graphic editor.

Editing

The graphic editor can be entered by clicking on the 'Edit' gadget on the tape-recorder page. Notes are dis-

played in Tiger Cub as horizontal bars where the horizontal length of a bar indicates the duration of that note. Notes also have stems and here the height of the stem shows the note on velocity (ie it shows how 'hard' the note was struck). Both of these aspects can be edited individually using the mouse and ranges can be marked out and transposed, velocity edited and so on.

Above the main dis-

play there is a row of gadgets (this is where we found the track and channel adjustment gadgets earlier) and towards the right of these you'll find PG, VE, PB, AT, MW, BC, FT and VO gadgets. These open program change, velocity, pitch bend, aftertouch, mod wheel, breath controller, foot pedal and volume windows near the bottom of the screen.

Midi users can use these windows to add program change commands, sketch in pitchbend curves (you do this by holding the right mouse button down as you draw a curve into the window) and generally enter and edit controller data.

On the right hand side of the graphic editor display you'll see a piano style keyboard and this provides an indication of the note values present in a track sequence. Down near the bottom right of the display there is the bar/beat position and note value indicators that change value as you move the mouse. These let you see exactly what notes are being edited.

The main objective now is to show you how to add a few notes to an empty track because this will allow non-Midi users to experiment a bit.

When using the editor to add notes to a sequence in this way the best idea is to use the Utilities menu to go to the Environment page and select 'Play When Selecting' - that way you'll hear notes as you add them to the track. Do that now and then select New from the Project menu to clear out any existing songs you may have loaded. At this stage the editor note display will be blank.

Immediately to the right of the tape recorder gadget you'll see a row of editing gadgets and from left to right these represent Note Draw, Paste, Select, Horizontal Range, Erase, Pitch Edit, Velocity Edit, Duration Edit and Move Note icons. Click on the Note Draw button and then (guided by the note/position indicators) use the mouse to draw an E6 note on the first beat of the bar, a D6 on the second and a C6 on the third beat.

If you find it hard to position notes because of the size of the display then over near the other side of the display you'll find a gadget that looks like a magnifying glass. Left mouse click on that a few times until the bars of the sequence have grown to a size that you are comfortable with (right clicking will reverse the zoom effect).

The gadget to the right of the magnifying glass allows you to set a quantize value and setting this to a crotchet note and then selecting it will make it easy to enter the notes in the correct positions.

If you make a mistake then select the Erase gadget and remove the unwanted note(s) by left clicking, or select the Pitch or Note Move icons to alter these aspects of a note. Either way when you got it right you're in for a treat - because you've just sketched in the first three notes of three blind mice (please accept my apologies, but remember I had to choose something that was easy and recognisable).

Now select the copy button, mark out those three notes by moving the pointer to the first notes, holding down the left mouse button and drag selecting the remainder by enclosing them in the rectangle that appears. After this select the Paste gadget, go to the start of the next bar (bar 2), move the pointer until note E6 is showing in the display and then paste in the section you copied by clicking on the left mouse button. You now have the first two bars programmed in and the rest is up to you (if you dare). As well as the editor display gadgets you find an Edit menu most of the options should make sense after a little experimenting.

Over To You

There is an awful lot more to Tiger Cub than we've been able to cover in this tutorial, but at least you will have seen something of what the program can do. By the time you've read the review and worked through this tutorial you should be ready to start experimenting and making music on your own! **AUI**

Users experiencing difficulty with the program can contact the European Technical Support line via voice, fax or snail-mail. The support line is available 11AM to 8PM GMT Monday to Friday (fax 24 hours).

Please contact: Avalon Music Developments 28 Rosemount Point, Dacres Road, Forest Hill, London SE23 2BW Tel/Fax: 081 699 7004

Magazine

urely it can't be possible? No-one could have bettered the multimedia marvel that was Amiga CD! in its first issue, could they? THEY may have not managed it, but WE have! It's big (about five inches, in fact, as Mae West is reputed to have whispered to the Bishop of Bath and Wells at a very interesting party, is that an Amiga CD! or are you just pleased to see me?), it's bright and, best of all, it's free!

You are now the proud owner of another piece of publishing history. Or, if you're phaffing about, reading this in a newsagent and wondering what all of the fuss is over, STOP! Put your hand in your pocket (please, Ms West, not again) and once you've finished with that, go and pay for it (Sega owners who picked up the magazine by accident are excused from this part of the exercise. They don't deserve anything better).

In case you were spending your hols on the moon last month and so missed the big news, Amiga CD! is roughly 600 megabytes of multimedia mayhem. Demos of really hot games (some so hot that they had to be sprayed with liquid nitrogen before being added to the disc) are just par for the course - just play our playable hole of Nick Faldo if you need proof of that statement - but, where other magazines stop, is where we start.

The trouble with demos is that they are like strippers: they'll only go



Bad taste, but great, smelly fun!

<u>Ashley Cotter-Cairns, Editor of Amiga CD!</u> Magazine, leads the team in introducing the most amazing multimedia magazine yet published. This breaks the previous record for the most amazing multimedia magazine, held by Amiga CD!'s first cover CD on last month's issue...

so far and then stop. We know that you want free, complete games to enjoy on your CD32 - or free, complete strippers to... so we have given you them one whole dozen of 'em, in fact. Games

not strippers. More on the subject of gratis games later.

The biggest jump up over last month's CD is the amount of CDXL footage. That means video stuff. Along

> with the usual editorial as per last month, we also have video reviews, interviews and features to entertain you. It's not FMV, but almost... We've also got film trailers and even a pop promo.

Other areas of the disc are packed with great music, wonderful graphics. Enjoy them all. To get at what you want, simply select the button by moving about with the paddle. Press the red selector to choose the onscreen button and the blue one if you want to skip the voiceovers or mu-

Discussing on CD the assets of Tom Cruise.

sic and go straight to the meat of the matter. (Not for vegetarians that one!)

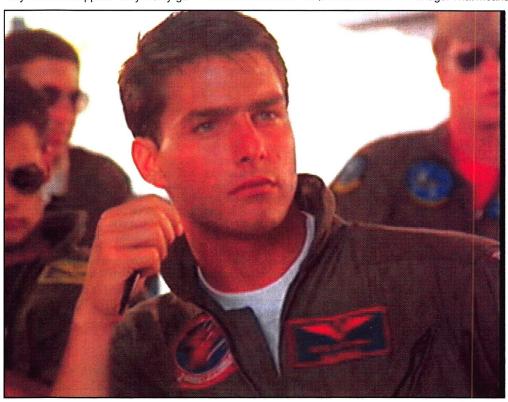
DEMOS

Old Nick features here, with a full playable hole of Grandstand's hit golf game created around world champ Nick Faldo for you to get stuck into. And stuck you will be, if you want to play on around the lovely 256-colour courses. Unless you go out and buy the full game, of course. And after playing the hole that's what you'll want to do. We've got it in here at Amiga Towers and the course is almost wearing away with the play it's getting.

Fury of the Furries from Mindscape (aka Software Toolworks) is a superb, squidgy game. Lots of little fluffy creatures are sick to death of being downtrodden and are determined to strike back. And when little fluffy creatures get angry, brave men run for cover. Sometimes.

Super Methane Brothers is a great weewee-take of a VERY famous platform game. Guide your handyman around the levels of platform gamer's heaven, collecting things that don't move and killing things that do. You've seen it all before, but never this good and never on the CD32.

AND MORE? Well, yes there is loads of it!. But what you have to do





Where are we? You'll have to find out.

is find out for yourself and enjoy the excitements of megabytes of highly playable stuff. This is a world where time may exist but in computer terms space doesn't. With acres of it, we're putting as much on as we can for you to experience and have fun with.

FREE GAMES

Everyone likes something for nothing. I guess you lot are no exception, because last month's free games went down like a heavy thing being dropped into a light thing. And this month we have TWELVE, count 'em, twelve free games for you to load, grab the paddle and thrash to death. Yum!

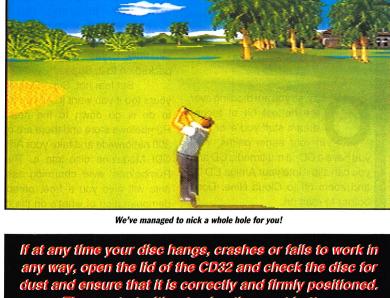
If you want to get personal, here they are on first-name terms: Battle Cars, Elevation, Grav Attack, Invaders, PacSim, Parachute, Rocky, Serene3, Smurf Hunt, Space Attack, Vector and Warrior. If that lot ain't enough for you, then you are not only a greedy git but you may just find that YOUR free games button on next month's disc will be empty. Hah. Respec'. You hear me? You are in the presence of multimegabyte games heaven - and it's yours for free!

ART

Not the now-dead Pete Beale's brother-in-law, but a collection of excellent computer pics to go gaga over. One whole page is dedicated to the ultra-talented Barry McCarthy - a kind of solo gallery on CD - while the second features a graphical collection of the best images around. It's the final frontier, after all. And Amiga CD! is taking you past it!

EDITORIAL

This month's editorial includes a whole lot more than just Ashley in another of his wild shirts (although there is a disturbingly large amount of footage with that terrible artifact in it. This month, Amiga CD! introduces real live reviews - watch my lips not my printout - of some of the latest CD32 titles including the brain-whacko exquisite torture of Domark's interactive Trovial Purswot with Amiga CD!'s team of games nuts led by the egregious Ashtray himself. There is also must know and goggle at feature on the Commodore FMV cart and all the wonder of your everyday sensational movies available for it like Tom Cruise Gun and none other than the old Boldly Go crew VI. Even more? Yes, yes, yes, With Max Jacobson-Gonzalez (no relation!) not just boldy but barmily going where no-one else would dare to venture in a perilous trip down to the bowels of London's West End



14240

Then restart without using the reset button.

Trocadero where, we kid you not, he not only encounters the real, yes, we do mean REAL, Alien, he, she, it of the film series, but with his foolhardy companions is chased through its steamy domain all the while smiling like the edcase he is... And, as a

NICK FALLOO

that thousands pay to be terrified by, but you can see for...well, just nowt.

reward for survival and his imitation

of Sigourney Weaver, is granted an

interview with the onlie creator of Alien

War, the horrible, awful experience

CREDITS

Don't just relegate the CD to your collector's box without first paying a thought to those poor souls who sweated blood, tears and Diet Panda in its production. Click on this little button to see a dedication to those tired out folks who are now recovering at expensive health farms who took a hand in creating the mucho mucho material created for this CD. Give them a standing ovation. Hooray! (The multimedia hat will be passed round shortly. No! Come back! Don't run away! We're only joking! It's all frrree - or at least you don't need cash because it's all on Credits!)

FILM AND MUSIC

More trailers than a summer caravan site and more fun too. Last Action Hero, with Arnie back on the video trail and Les Visiteurs, the in-your-face hilarious French farce that has just reached the cinema screens of the world and is wowing them all over.

This is where you can find the movies to have at home, along with a real promo pop video from the up and coming at you group Super Cirqus. CD - Amiga CD! - is the future of pop videos - only the promo videos of tomorrow will be FMV.

MORE SOUNDS

Two more superb bits of digital music. Play these to show off to your mates about how spiffingly ace the CD32 is at making noises - CD quality noises...



Get ready to play away in the Kumberlows Games Arena

Button Controls

Red: Selection/Pause Picture

Cancel Selection/Return to Main Menu Blue:

Green: Help

Highlight Option Cursor:



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stunning experience!



kay, so you are drooling over the hottest bit of techndream stuff you ever held in your eager palms. Yes, vou have a CD - a multimedia CD and vou can slip it into vour Amiga CD 32 and zoom off to Cloud Nine. Don't bother to read on.

Or maybe you don't.

Maybe like most Amiga users you don't have an Amiga CD 32 yet. So what are you going to do with your CD? Well, AUI has for years been giving you a SuperDisk full of the cream of the Amiga utilities. And there is one this month too. Superdisk 36.

SWAP AND WIR

And where is it? We hear you cry. You got a CD on the cover of AUI, didn't you?

And you got Superdisk 35, the amazing Dr T's Tiger Cub music program. But no

SuperDisk 36 which has, as you will see from the instructions on page 12, fifteen, yes, fifteen programs packed on to it. Shame!

But fear not, SuperDisk 36 is yours too if you want it. All you have to do is go down to the nearest Rumbelows store and there are over 300 nationwide and take your Amiga CD! Magazine disc into it. There, Rumbelows' ever charming assistants will give you a free, personal demonstration of what's on the disc and what the Amiga CD 32 can do. And they will give you, a genuine AUI SuperDisk No.36 too.

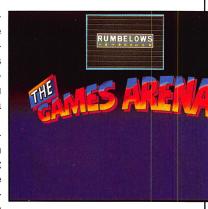
Now do you want a free, personal demonstration of the latest and some say greatest piece of technology ever produced for the Amiga world? Oh yes, you do.

Because there two Amiga CD! Magazine discs which are not quite like the others. On them, in the Credits section, you will find a message page and it will give you vital information which will tell you if your disc is one of the winners of a special competition. The prizes? What two do you expect from a CD magazine - Amiga CD 32s.

You can claim your prize either by getting the confirmation from a Rumbelows' store manager that your disc is a winner or by sending the disc to AUI - registered post - addressing it to Amiga CD! Competition Disc No.2. So you have the chance not just to get an AUI SuperDisk No.36, but also an Amiga CD 32 console as a prize. And once the secret difference is confirmed, a spanking new Amiga CD 32 will be winging its way to you.

So if you don't have an Amiga CD 32, make sure you go along to your local Games Arena at Rumbelows and see if you have the magic disc that lets you win one.

Now we know that there are no Rumbelows stores in Scotland and Ireland. So, if you live there all you have to



do is call 081 302 8383 for your nearest participating dealer who will, we're sure, be delighted to give you a demonstration of the Amiga CD 32 and a SuperDisk 36. The worst that can happen is you will get a free AUI SuperDisk No.36 worth around £15. You couldn't get a better offer than that. You've got nothing to lose, have you?



In Rumbelows' Games Arena and other helpful stores there is an Amiga CD 32 waiting for you!

Burning Chrome BBS

Thanks to Simon Gardner who helped us to obtain some of this month's programs. If you have a modem you can contact Simon's BBS on 0428 727060 (19.2K HST DS+ V32bis). This is not a voice number so you can't make funny noises down the phone! This is a modem only number!

COMPATIBILITY

All the programs on this month's Superdisk are for Workbench 2 and above. Few new utilities are being developed for 1.3 users. So this month we made the decision to put them all onto an FFS disk. This has two advantages. directory accessing is faster and there is 42K more to play with. How people react to this disk determines whether we continue with this form of disk. Let us know what you think.

Faulty Disk?

In the event that your AUI coverdisk fails to load (because of a read/write error etc), please return it to the following address for a free replacement. Allow 28 days for delivery.

AUI Faulty Disks, 138 Lambeth Walk, London, SE11 6EW

Don't forget to include your name and full postal address in BLOCK capitals. Collector's tokens from the back of cereal packets are not required, thank you.

NO SUPERDISK?

Yes, consult your newsagent! But we've had so many complaints about readers not getting disks that we're trying out a new idea. We can't be responsible for what happens at the end of a long chain of different organisations who handle the magazine when it leaves us, especially outside of this country. We know that someone appears to be taking disks off copies of the magazine in some countries but we don't know whether they are being stolen or taken off as a protection against a large sales tax having to be paid.

So what we propose is this: if you live in the U.K. you will have to consult your newsagent and get him/her to contact the wholesaler etc in the usual way. However, if you you are outside the U.K. we want to help you get the advantages of the SuperDisk so if you send us £1 in sterling (International Money Order etc) to cover postage etc and we will send you the month's SuperDisk. Okay?

Reader's Contributions

We are always looking for new and original programs to put on our coverdisk. If you would like to see your name and program feature in AUI then please contact AUI at the address given in the front of the magazine. Alternatively, give us a call if you think we would be interested in your program (071 487 4284 ext 1071). The shorter the better, under 100k including any libraries - unless it's brilliant! Compiled AMOS programs are welcomed.

shareware

Just a brief reminder that some of the programs on our Coverdisk are Shareware. This means that you can try them out, but if you regularly use them you should send a registration fee to the author. Registration fees are between £5 and £20 and sometimes the author will send you the latest version in return. You can send an International Money Order, or preferably a cheque but many authors don't accept cheques if they are outside the UK. If you want to risk sending cash in a registered post, it's up to you. We wouldn't advise it but it's your money...

Read the instructions!

If you get stuck with a program then you will probably find the answer somewhere in the documentation. Therefore it's best to read the documents on disk that usually accompany each program.

If for some reason you can't access the program documentation then either the default tool is not set to 'more' or there isn't any. To set the the default tool to 'more' use the Workbench 'info' or 'information' option selected from the 'icon' pulldown

Always check that the program you are trying to run is compatible with your machine. Also remember that if the program requires any libraries then you should re-boot from Workbench in order to use that program. Sometimes libraries will be on the Superdisk and these can be copied to your Workbench libs directory for use by the programs. If you get really stuck with the Superdisk then please write in to AUI rather than telephone. Alternatively, hang on for the next AUI since we will always report any problems in the following month's issue. If you do write then your letter will receive attention but please, no more telephone calls!! Thank you, have fun!!



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AUSUNETCIS

Another disk packed with over a megabyte of software. It's dead easy to un-crunch because your guides, **Simon Gardener and Gideon** Overhead, have used Commodore's Installer to do the dirty work for you!

Welcome to Superdisk 36

oot up your machine with Workbench or the Superdisk. Double click on the Superdisk Install icon and wait for the installer program to load.

When it's loaded just click on the "Proceed" button. As the message says, you are about to start the unarchiving procedure, so click on "Proceed" again to get underway.

Now select Hard or Floppy Disk as your destination device and click on "Proceed".

Note, if you want to unarchive to the RAM disk click on "Proceed" anyway since the RAM disk can be selected later in the procedure (and is, in fact, the default directory).



The installer utility should be totally muppet

You will see a scrollable list of the archived programs on the Superdisk. Click on the up/down arrows or scroll bar to scroll the list. Click once on the file that you wish to unarchive and click on "Proceed" again.

The install program will now ask you where you want the file unarchived. The default is RAM but use the "Show Drives" gadget to select a different drive and directory. "Make New Drawer" will let you create a new drawer, if you haven't guessed!

Click on "Proceed" and installer will show you the exact command it is about to execute. If it all looks good (if you're interested that is), click on... that's right, "Proceed".

The disk will then chunk into

action as the file is unarchived. When it's finished, you'll have the option to continue unarchiving the other programs (by going through the selection process again) or finishing the unarchiving procedure. If you choose the latter, the final task is to decide whether or not to install any libraries.

If you select "Yes", the installer will show a list of all the library files available on the Superdisk. Click on a particular library to remove its 'tick' thus indicating that the library file will not be copied. Select a destination for the libraries (probably your Workbench Libs: directory) and click on "Proceed", the libraries will now be copied.

If you intend to use this month's programs from your hard drive or your own Workbench disk, you need not copy any of the libraries except for regtools.library and arp.library - if you don't already have it.

At this stage the unarchived program(s) will be in the selected destination. Once you are used to the above procedure you will find that it's very easy to unarchive any of the files on the disk. We're using Installer again this month, so if you like it or loathe it, drop us a line.

Programs

There are 15 archived programs on the disk this month. Most, if not all, of the archives have a README (or .doc) file which has been set up to use "more" if you double click on the icon. This will give you much more information about the program and how you can utilise it, so always read this file if you intend to use the program.

These files look for "more" in the c: directory which is on the Superdisk. Alternatively you can load the documentations files into most word processors.

Archives

Here is an at-a-glance list of all the archives on the disk:

addpower.lha addto120.lha assigns11.lha cxkiller.lha fbl62.lha filem121.lha filex.lha

memclear17.lha parnfs10.lha paths10.lha rpi.lha swazinfo.lha vat-check.lha kingcon11.lha womble.lha

If you find a program needs a paticular font or library make sure that they are in their assigned directories For example if you boot from your hard drive and dearchive Womble to RAM, then try and run it, it will complain that it cannot find the womble font even though it is in ram. This is because it looks on the booted drive for the font. You can either copy the library to your boot disk fonts directory, or open a CLI and assign it to RAM manually. To do this, type: Assign fonts: ram:fonts. If it is a library that is missing substitute the fonts: with libs, and ram:fonts to where ever the library is! I hope this paragraph hasn't confused you but there isn't any simple way of explaining it!

AddTools

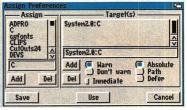
This program allows you to add your own items to the "Tools" menu of AmigaOS 2.04's Workbench Screen. Unlike other menu utilities, which only add the ability to run programs by menu, AddTools can also pass them some parameters on "the fly" by selecting some icons (from now on called "icon parameters"), before choosing the desired menu item. You can also provide default values if no icons are selected, and you can decide if the program must be run in either synchronous or asynchronous mode when multiple icon parameters are selected.

Assigns

Assigns is a preference editor.

Using Assigns you no longer need loads of assign lines in your "User-Startup", it's all made in a single line.

Assigns is not an "Assign-Manager", it has to be used as an utility to start when booting the system, and it handles all your assigns. It can even add assigns and activate them just as c:assign.



Assigning made easy with this useful program.

CX Killer

CxKiller is a very simple program which is used to kill commodities from CLI/ Shell. But will you say, we already have Exchange to do that. Yes but it is GUI oriented. CxKiller has been done to be called from scripts, ToolManager menus or docks, hotkeys, Browserll and whatever you want.

FBL

This tiny program will speed up blitter processes just like FastBlit, for any Amiga running 2.0 or above, but with a few additional bonuses. Unless otherwise specified, the following routines will also be replaced with more optimised routines:

LockLayerRom() UnlockLayerRom() WritePixel()

OwnBlitter() DisownBlitter() BltClear() InitRastPort() ClearEOL()

ClearScreen()

SetDrMd() SetBPen() SetAPen()

Libraries

This particular aspect of AmigasDOS can be a little confusing, especially for beginners. You don't need to know how libraries work but you should know what to do with them!

We generally provide the libraries that are required by the programs on the Superdisk, and these can be copied to the libs: directory of your Workbench disk (or other bootable disk) if required.

Remember that the computer will always look for the libs directory on the disk with which you booted up, so if there is a problem with a program needing a library ensure that the library is present in the directory.

Finally, Workbench 3 has a number of new libraries which can't be used with Workbench 1.3, so don't try using them with the old OS. If in doubt, read the program documentation, since programmers usually put this information into their readme files.

0,456

COMPATIBILITY

All the programs on this month's Superdisk are for Workbench 2 and above. Few new utilities are being developed for 1.3 users. So this month we made the decision to put them all onto an FFS disk. This has two advantages, directory accessing is faster and there is 42K more to play with. How people react to this disk determines whether we continue with this form of disk. Let us know what you think.

TextLength() RectFill() WaitTOF() SetFont()

FileMount

FileMount is a simple utility designed to create what I call "pseudo-partitions". A pseudo-partition has all the characteristics of a real partition, but resides within a file. It is used via the CLI and therefore has no icon.

FileX

FileX is a so-called binary file editor which offers the following features:

- The Editwindow can be opened on any public screen and sized to any dimension you want.
- Fontsensitivity
- Locale-support if you have OS 2.1 or higher. (English and German catalogues available at the moment)
- Undo and Redo (only limited to your free memory)
- Search and replace
- Extensive blockfunctions
- Clipboardsupport
- ARexxport with more than 66 commands and commandshell
- Printing as hexdump
- 'Grab memory' to show and modify memory
- AppWindow. If FileX runs on the workbench, icons can be moved onto the FileX window and the related file will be loaded automatically.
- Iconify (Applcon)
- Moreover, FileX will be developed further permanently(!).



FileX, the most powerful binary editor ever?

If you want to use the installer you will have to copy the installer program from the Superdisk where to FileX's installer icon is.

KINGCON

The WB2.0 console-handler - CON: is really good, but it lacks some very handy features that make life easier if you use it frequently. KingCON (or KCON) is a replacement that behaves EXACTLY like CON, but it also adds these important features:

* Filename completion. You just type the first letters of a filename, press the TAB-key, and - voil‡! - the rest of the name is filled in for you (or you will be presented a list of alternative files from

which you can choose). This makes typing MUCH faster and minimizes frustrating misspellings. You can also bring up a standard file requester and select a file that way. DOS-commands and devicenames can be completed in a similar way. Some of you might say that the Shell should provide this function instead, but since all editing is managed by the console-handler anyway, this is only natural. And as a "sideeffect", the filename- completion will be available AT ALL TIMES - not only when you are standing at the shell-prompt.

- * Review-buffer. A scrollbar in the right windowborder lets you browse through all text that has been output to the window at any time. (Very useful when your compiler spits out ten pages of errorlistings.) The buffer can be turned on and off, and saved to a separate file.
- * Intuition-menus that give you a quick access to the features mentioned above. You can control the size of the window, clear it etc.
- Jump-scroll option, which increases output speed a lot.
- * The console window can be iconified and put on the Workbench as an Applcon.
- * Asynchronous typeahead, if you want to type in the next command while watching the output from the previous

Please note that KingCON does NOT patch CON in any way, it is written completely from scratch. There is a way, however, to mount KingCON as 'CON:'. In this way, every program that use 'CON:' will actually be using KingCON and all the good it stands for .:-> Of course, this is optional.

Memclear

MemClear clears the unused memory chunks with zeros. After clearing memory, it prints the amount of cleared bytes in CHIP and FAST MEMORY and the total amount of free bytes. This is another program which is used via the CLI and so has no icon.

ParnFS

ParNFS is intended to be a replacement for the well-known Parnet file system by the Software Distillery. It was written because the original had a number of important deficiencies:

- 'It came without source, which is a sin by itself, but also meant we couldn't fix other problems.
- * It would not allow you to get a direc-

tory listing with most versions of the "list" command that we used; only the AmigaDOS 1.3 version worked.

- * It did not cooperate with other applications using ParNet.
- It gave annoying requesters when you attempted to use 2.0 features.

Paths

Paths is another preference editor.

Using Paths you don't need reams of path lines in your "User-Startup", it's all made in a single line.

Paths may be useful both for the boot and for adding or removing global or local paths during your works.

SwazInfo

Swaz Info replaces the Workbench icon information window while still retaining all the information and options and providing more window but with several enhancements.

Features added in addition to normal Workbench Information:

- AppWindow; Icons may be dropped into the information window to load the image or tooltypes.
- MultiuserFileSystem "; Owner/ Group/Other/SetUID protection bits definable
- * Window font is configurable
- * Commodities support
- * Arexx support

This program requires matrix.library so remember to copy it to your libs directory. If you want to use the installer you will have to copy the installer program from the Superdisk to where SwazInfo's installer icon is.

Womble

Womble has been written in Blitz Basic and was designed as a multi-purpose organiser. It contains a powerful address book with excellent search, edit-



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An excellent file management program

ing and printing facilities, an equally powerful database, a list generator and a timetable system. The whole thing is fully integrated and should prove itself invaluable for keeping your personal affairs in order. When copying this program, make sure you copy the font directory as well otherwise the program will not run. This really is an excellent program which is why we gave it 95% in this month's PD Stakeout.

RPI

This interesting little program will tell you how much a particular sum of money from any year of this century would be worth in any other year. So, for example, if you were to enter £100 in 1901, and ask it to tell you what the equivalent of that would be in 1994, then the program would respond with £5749.43 (which is worth the same now as what £100 was worth back in 1901!), very useful!

Vat Check

Have you ever received an invoice from your electrician, only to find that a hefty 17.5% has been added to it in "VAT"? Or are you worried that a plumber's bill scrawled in pencil on the back of a cigarette packet might not be genuine?

If so, then this program is for vou...

By law, all companies in the UK that charge VAT are legally required to supply their VAT registration number on all official paperwork, including bills, receipts and invoices.

This program lets you enter these VAT registration numbers, and will instantly tell you whether or not they are valid. A useful to not being ripped off.

AddPower

AddPower is a utility for users of Workbench 2.0 and above that adds several small features to the operating system. These features allow you to take full advantage of the improvements of Workbench 2.0 and 3.0, adding new powers to DOS, enhancing the look of screens and menus, and more. This is version 37.6, and adds centred windows, improved ease of use, the ability to make all system assigns with one command, and more.

The full documentation is in AmigaGuide format, but don't dispair because you can load it into any ASCII text viewer. AUI

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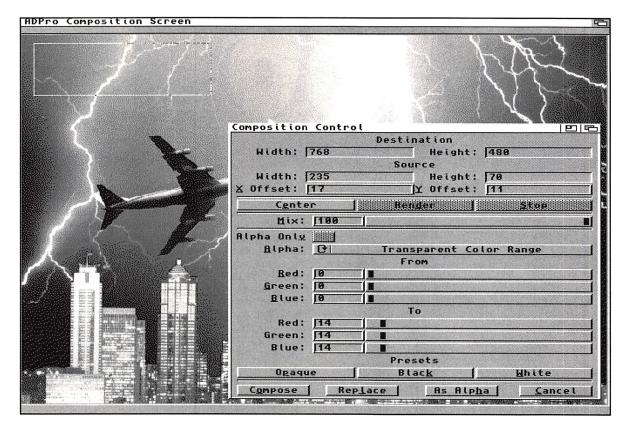
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Royal Ace Virtually Organised A Case of Exec Right Second Time

Compiled and edited by Anthony Mael and Martin Witton



AD Pro Facelift

ADPro's new visual compositing control screen, now with custom display modes.

A DPro 2.5 is now available for upgrading. In what the company terms "the most significant upgrade in its history", ASDG's Art Department Professional (ADPro) now offers unmatched display board support, over 100 pre-written ARexx programs, di-

rect support for the Fargo Primera dye sublimation printer, new file formats and operators, and an entirely new look and feel which dramatically boosts ease-ofuse.

ADPro version 2.5 offers a choice of several completely style guide compliant user interfaces. According to ASDG's president, Perry Kivolowitz, "A new and thoroughly modern user interface was our most requested improvement. We surveyed our customers and found that some preferred a list oriented graphical user interface (GUI) for speed, while others preferred a button oriented GUI for ease-

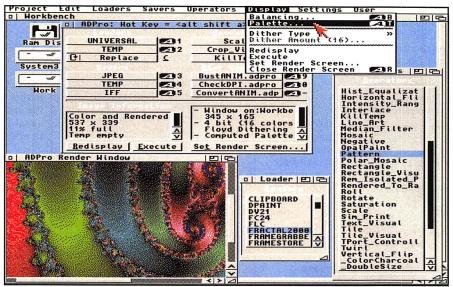
of-use. We implemented both and allowed them to be intermixed configurably." The result, says ASDG, is an easier-to-use ADPro in which no major feature is more than a mouse click away.

ADPro's GUI now runs on many third party display boards, such as the Picasso, using RTG (ReTargetable Graphics) technology. ADPro can now render images in a window on the same

screen as its user interface, bringing new levels of WYSIWYG performance to the product. They have added support for Commodore's CDXL animation format, Digital Broadcaster JStream files, FLC and FLI animations, ICO files and direct reading and writ-

ming section. The manual has also been reorganized (and its index expanded) based upon customer feedback making it easier to use and more helpful.

ADPro 2.5's price will remain unchanged at \$299 (about £200).



ADPro 2.5 running on a 16 color WB, with the floating 'tear-off' Loaders and Operators list windows. Rendering is to a draggable, scrollable window.

ing of Workbench icons. The PCP has grown to support files in the SGI, Alias, and Wavefront (both the RLA and RLB varieties) formats.

ADPro 2.5 also sports greatly improved documentation. ADPro's manual now includes 9 tutorials, many more pictures and diagrams, and an expanded ARexx program-

Existing owners can upgrade for \$45 plus P&P and can, for the first time, upgrade via telephone using Visa, MasterCard, or American Express.

The cost is £39.99 to upgrade from 2.xx to 2.5.
Contact: Meridian Software Distribution.
Tel: 081 543 3500.

AUI News FILE

Warping it up!

Supercomputer power on your Amiga? The flagship of the Amiga range is the A4000/040. The speed of the A4000/040 in millions of instructions per second (MIPS) is about 18+. This speed is only an indication of the real user-speed when it comes to specific applications but it's a reasonable guide to the computer's power. It's pretty fast but can soon appear pretty slow, when you're rendering a complex scene or pushing ADPro to the limits. There just doesn't seem to be an accelerator fast enough for the power-hungry users out there...

...until now. As we reported last month, the WARP system is

coming. And we have more details of the astonishing speed claimed for it. 18 MIPS? HA! How about 8000 MIPS? No, it's not a typing error. That's about 444 times faster than the A4000/040.

The WARP system starts with a Zorro main board in your Amiga. This can connect with an external box (a tower PC with a power supply and lots of slots). In your external box you can slot in processor module cards. Every time you add another module, you increase the power.

The processors are Inmos transputers. You can base it upon the 30 MIPS

Warp speed, Cap'n 4000.



T805 or the soon to be released 200 MIP T9000 chip. The Inmos chips are fully parallel processing, so the more you add, the faster you go. The 8000 MIPS example above, would require a 40 module T9000 external box. Probably not very cheap. Software needs to be rewritten to take full advantage of the parallel processing capabilities but will still work 'as is'. Currently being re-written are: Art Department Pro., Real 3D 2.4, Imagine, TV Paint and many others.

Price in US: T805 Main Board \$1095. External Box \$300. T805 Module \$1200. No price for the T9000 yet.

Contact: SatLink UK Ltd, Unit 20, Phoenix House, 86 Fulham High Street, Lodon, SW6 3LF. Tel: 071 371 7471.

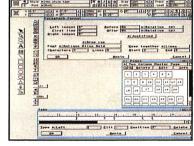
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Pagestream 3.0 is landing

The "all new" PageStream 3.0 in action!

he latest version of Pagestream is aiming not so much at beating ProPage, but beating the industry standards on the Mac and PC, the latest versions of Aldus Pagemaker and Quark Express. PageStream 3.0. Soft-Logik told AUI, can import and export text in Amiga and PC word processing formats, including Final Copy and WordPerfect. "It has so many word processing features that you may never use a word processor again". Oh really? No word processor, they claim. can match PageStream's selection of precise typographic controls. Kerning. tracking, leading, bulleted paragraphs, widow and orphan control.

The new Pen tool allows you to draw curves and complex paths. The improved Freehand tool lets you sketch your ideas and then have them



Examples of the new requesters and multitudes of tools.

smoothed out automatically.

The new Edit palette allows you to change object coordinates and settings without having to wade through requesters. Open the Edit palette and leave it anywhere on screen while you work to save time. The Edit palette changes modes as you work, from text attributes, to editing points, to setting the ruler zero point. Wow!

Most people don't want to

Hearing the Sunrize

Sunrize have provided one of the last missing links in the evolution of the Amiga into an affordable and easy-to-use professional multi-media studio. The latest upgrade to the Studio 16 516 sound card and software, Verion 3, offers direct-to-hard disk 16-bit recording of up to 8 sound tracks, with a full graphical interface and powerful editing facilities.

Each card fits into the Zorro slots on the Amiga 3000 or 4000 and comes with two input and two output audio sockets and an onboard DSP (Digital Signal Process-

.

learn a programming language to automate common tasks, but they claim that recording a macro with Page-Stream couldn't be easier. Just choose 'Start Recording' and you're ready to enter the world of automated desktop publishing. However, with one of the most extensive ARexx command sets ever created, PageStream gives you control over every aspect of the program so you can create complex ARexx macro scripts.

Pagestream 3 has been awaited for months now, with its release date being constantly delayed. They are hoping for late Spring this year. The holdup arose from the fact they "threw away the original source code and started from scratch, in order to get the desired result." Oh really?

The program won't run on a system without 2 Megs of RAM and a hard drive. So, it looks like being ideal for A1200 and above owners. The prices being bandied around are \$395 with reductions for those upgrading.

ing) chip. The new Version 3 software can support up to four sound cards simultaneously for a maximum of 12 track recording on the hard disk with a total of 8 audio inputs and 8 outputs, while the new graphical interface could hardly be easier to use: simple 'drag and drop' editing facilities on all tracks, cross-fading, panning and mixing features, and sounds assignable to any card.

Studio 16 is compatible with MIDI and the main video-editing timecodes, so linked up with a suitable digital video-editing board and a multi-media orientated sequencer like Blue Ribbon's Bars and Pipes Professional, a complete broadcast-quality digital audio-visual editing suite can now be controlled by the Amiga; voice-overs, sound effects and music can, SunRize told AUI, be perfectly synchronised with video down to the exact frame.

A complete audio-visual editing system including the Amiga 4000 can now be put together for about £3500, compared to nearer £20,000 plus for the comparable AVID machine currently used for video production and not only is an Amiga-based system less expensive, it is also much easier to use and develop. When the high-flying video-production world realises this, there could be an explosion of Amiga interest.

The SunRize Studio 16 516 Version 3 soundcard plus software costs about £1000 per card, with discounts for more than one card. Contact Premier Vision.

Tel: 071 274 4407.





Give Thanks to the Creator

D32 owners can now send their consoles on a very heavy psychedelic trip by slipping them Almathera's upcoming Video Creator. Video Creator enables users to subject the CD32 and themselves to a mind-shattering myriad of images and colours which will dance, shimmer, breathe, moan and pulsate on screen in time to any music CD.

Users can either program images, special effects and animations for specific music tracks themselves with a mouse-controlled editor, in effect creating a home-made video, or use the

Random Raves facility which lets the CD32 generate random effects itself in time to the rhythm of the sound.

Users with an FMV cartridge can also add special effects to existing VideoCD music videos, so you can now send Bryan Adams, for instance, off into a dimension of your choice. (There are people we know who would gladly do that!)

Due out shortly, the eagerly - and long awaited Video Creator CD will cost around £35.

To get rid of Bryan Adams alone it's a bargain!

Contact: Almathera Systems Ltd., Southerton House, Boundary Business Court, 92-94 Church Road, Mitcham, Surrey, CR4 3TD. Tel. 081 687 0040

MO' MEMORY

Fourth Level Development have given fresh spurt to the exponential growth of Amiga rewritable disk storage capacity with the release of a new 1.2 Gigabyte magneto-optical drive system. The MO-Miga 1.2 version 2.21 takes 5 1/2 inch doublesided cartridges which can store over 600 Megabytes - that's the current equivalent of a CD - on each side, double the capacity of the previous version 2.1. These can be easily removed and used on other machines; the MO-Miga system includes software which can automatically configure new host machines to the set-up requirements of the cartridge. The data transfer rate is a fast 2 Mb/sec going up to a furious 5 Mb/sec asynchronous burst, which should be more than adequate for likely users such as for CD-ROM authors, video producers and bulletin boards.

The drive is due to be released at £2703 with each cartridge selling for £150, giving a cost per megabyte of under 15 pence (ignoring the cost of the drive).

Contact: Ramiga International, Stablau 'Rin, Pentrefoelas, Clywyd. LL24 4LE. Tel. 0690 770304



Fighting for the market - CBM'1200 goes into combat.

Combat Gear

ommodore have just released new improved - "new...improved" we marketing aces love those words, don't we? - bundle around the A1200: the Computer Combat Pack. The pack contains seven, yes, seven, software titles going for a mixture of serious and games stuff. Leading off withthe Digita Wordworth 2.0 word-processor, the Digita Printer Manager letter publishing

package, Digita's Day-by-day personal organiser, Personal Paint 4.0 (*AUI* readers will have read about it February *AUI*) and three games, Gremlin's vastly popular Zool 2, Total Carnage and the excellent Brian the Lion. If you don't have a 1200 this has got to be a pack to which you might well condsider upgrading. Available from stores that know what's good for them at £349.

Netting Amigas

A solitary Amiga can usually stand its ground, but a gang of Amigas linked on a network means business. Interworks new I-Card and ENLAN-DFS software offer the benefits of networking to Amiga 600s and 1200s via their PCMCIA slots. The I-Card package includes a high-speed, 16-bit Ethernet adaptor plus a SANA II compatible driver which can tie in with the ENLAN-DFS Peer-to-Peer networking software or other Amiga, Ethernet-based networking programs that follow Commodore's SANA II networking standard.

The ENLAN-DFS (EtherNet Local Area Network Distributed File System) permits transparent disk and file sharing, printing and centralised back-up, as well as sharing of other peripherals like CD-drives and removable media storage, which makes it particularly suitable to the Amiga's multimedia capabilities: allowing several users to work on a large multimedia CD project simultaneously, for example. Each card is priced at £293 and the ENLAN-DFS software comes at £293 for every 5 nodes networked (it can network upto 50,000 nodes). Contact: Ramiga International,

Stablau 'Rin, Pentrefoelas, Clywyd. LL24 4LE. Tel. 0690 770304

AUI News FILE

ADI FOR REVISION

uropress Software have announced a new package for GCSE students. The revision package for 14 - 16 year olds is available for English, French and maths and covers the topics which are claimed to complement fourth and fifth year studies. The new package incorporates the existing ADI 14-15s pack and is an extension to the ADI range, licenced from French publisher Coktel Vision by Europress.

As with the rest of the ADI range, ADI guides the student through each activity, offering on-line help at every stage. The Amiga version has a new screen format along with the ability to personalise the layout and have background music.

ADI GCSE is compatible with all Amigas with 1 meg, priced £34.99. Contact: Europress Software, Europa House, Adlington Park, Macclesfield SK10 4NP. Tel: 0625 859 333.



Not chopstick but joystick.

FROM SPEED PADS TO SUSHI

S pectraVideo and Nissho Iwai of Japan have announced a distribution deal to penetrate the Japanese market place. Nissho Iwai represents a diverse range of companies including the BBC, GEC, Boeing and Mercedes. For the Britsh comapny the deal is said to be a major opportunity for expanding worldwide sales of SpectraVideo's Logic 3 range of computer add-ons and peripherals.

Contact: SpectraVideo, Unit 27 Northfield Industrial Estate, Beresford Avenue, Wembley, Middlesex HAO 1NU. Tel: 081 902 2211.

Oh Really? No.1

Hewlett Packard's Software Business Unit general manager, Tilman Schad said "Microsoft is coming from a paradigm where one person uses multiple applications on the same box, so the issue is applications cooperation in a fairly static way. Where we're coming from is multiple people working together on the same task, and therefore probably the same application, which is really where the whole thing is going". After reading that we don't know whether we are coming or going, Mr Schad.

FACTOID

Desktop computing storage capacity is increasing at 60% each year, prices are falling at 12% every quarter, and the life expectancy of a new product is a mere nine months. Wow!

MULTI-PLATFORM VIDEO CDs

C astle Communications have announced the release of their first CD based music and documentary titles. This follows the launch of Castle's first multi-platform video CDs at the recent Milia Festival in Cannes.

Pavarotti - Nessun Dorma, Dinosaurs - Myths and Reality and The History of Aviation are the first three titles to play on 5 separate platforms, including Amiga CD 32.

Castle envisage a catalogue of over 50 titles by the end of the year. And all of them on Amiga CD. Great!

Contact: Castle Multi Media, 081 974 1021.



Video CDs - making a dinosaurs of VHS.

DEMO MANIAC

D o you want to create a sequence for latest video production? Well, say Black Legend - the idea behind DemoManiac was to create a powerful tool that allows you to make use of the fantastic possibilities offered by the Amiga family without being a professional programmer.

Featuring a maximum of 6 layers at the same time and combining graphics and animations on the

FACTOID

Dataquest predicts that by the end of the year over half of Europe's PCs will be on networks. Last year only 45% were linked up, compared to 60% in the US and 11% in Japan. screen together; support of various sound formats, including ProTracker; insertion of sound effects (such as an aeroplane when flying over a vector landscape); open architecture allows the inclusion of effects from data-disks or your own assembly routines; a layer system which allows effects and graphics visible/invisible; mixing of effects and their colours; creation of patterns out of routines and parts out of patterns and demos out of parts. Whew!

DemoManiac supports IFF formats and recognises and supports 68020 and AGA chipset. Black Legend say interactive effects are possible - create your own vectorscope and fly over it with the joystick or mouse with implemented text editor for screen texts, scrollers etc. Not so much whew as wow now.

Contact: Black Legend Software, 20 Guildford Road, St. Albans, Herts. AL1 5JY

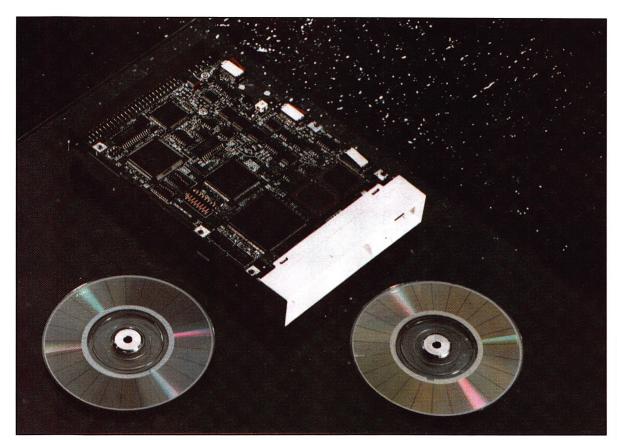
SOAR'S VISTA

Andy Soar is planning a large open air concert in Nottingham's City Centre. What, you may very well ask has that got to do with the Amiga? Well he would like to commission some Amiga animators to provide animation to go with his compositions which collectively are to be called 'Vista'.

Not content with the open air project, Soar is also planning to start up a licenseware label to be known as the Pulse and would like to get people who've written games to send them in. He says he's not bothered how the games are coded as long as they are playable. Other magazines might venture to suggest these are two jolly good ruses to get a mailing list set up. AUI of course would see this merely as an opportunity for Amiga animators and gamestors to see their work being produced!

Contact Andy Soar Tel: 0476 65407.

AUI News FILE



SECOND GENERATION 3¹/₂"

ioneers in 1" high rewritable optical disk drives, Fujitsu has announced what they claim to be the world's first second generation magneto-optical product which offers an almost doubling of capacity to 230MBytes per media. Backward compatible with the 128MB predecessor, the new M2512A complies with the

ECMA-201 standard.

The new drive can be used in small workgroup configurations and in Unix workstations. MO technology can now address all major hardware platforms used in sophisticated graphics and multimedia applications, say Fujitsu. The M2512A achieves the increase in capacity using Zoned Con-

stant Angular Velocity (ZCAV) which, like constant density recording techniques in hard drives, enables outer sectors to achieve the same densities as those on inner tracks

Contact: Fujitsu Europe Ltd, 2 Longwalk Road, Stockley Park, Uxbridge, Middlesex UB11 1AB. Tel: 081 573 4444.

The Going Rate

With increasingly graphically accurate (in every sense) games, the computer games industry was scared that it was only a matter of time before legislation finally laid the cold hand of the law on the shoulders of the software houses. Although computer games are covered by the same laws as films and such software as The Lovers' Guide has been certificated, most software has been untouched by any form of censorship other than the scruples of its creators..(No, don't say what scruples!)

As if to preempt any move by our knee-ierk back to Victorian basics Government, ELSPA (the European Leisure Software Publishers' Association - in other words the games' industry's self-protection group) has announced a "voluntary" regulation system.

As computer games are nowa-

days capable of being film quality and offer almost unlimited possibilities of storyline, the British Board of Classifications - which covers films - couldn't vet every frame of every game. So the games companies' view is that it's better that the companies who - supposedly - understand the content give it a rating themselves. It's claimed a watchdog body will ensure that software companies adhere to the code of practice. Though what legal power such a body will have remains to be seen.

The ratings, which will appear on the box of every game - or those that apply for the classification - are in four categories: 0-10, 11-14, 15-17 and 18+.

The idea is to give the potential purchaser (more specifically parents) the age range for which the game is suitable. It doesn't mean the classification is a comment on the content of

the game or the gameplay, but is intended to give the degree of graphical explicitness of the software. Nipple counters welcome no doubt!

In spite of the pious protestations of the games industry which has for years been desperately seeking "real world" respectability, there are those who think it's all a very silly idea. "Is there a similar classification of toys?" One games industry observer asked. "And just how far should the busybody censorship lobby be allowed to go? And most important of all, do they really think it will stop kids playing games that are above their age group? Of course, it won't."

With the amount of uncensored violence on TV - which with the multiplication of channels is likely to grow computer games, which are technologically years away from realism anyway, are a very minor factor in the "corruption" of the young - or old for that matter. As one somewhat cynical journo commented "When will this country grow up, stop wasting its time

FACTOID

The Atari Jaguar won the Video Games Magazine 'Best New Game System' award at the recent CES in Las Vegas. Wow! But it seems there was no such award before. The helpful Video Games Magazine award was created specially for the Jaguar. Anther helpful mag, Electronic Games, voted Jag game Tempest 2000, the best game of the show. And Tempest 2000 is isn't even finished yet.

Do we scepticals at AUI detect a desperation to help the poor little pussy cat along? Can it be there are problems which are the reason for the Jaquar entry into Europe being delayed? And any suggestions for awards AUI could create just because we want to prove something really exists?

XSYNC

he XSync is an auto-configuring expansion card which fits internally in the A2000, 3000 or 4000. Fully populated, it includes a VITC (Vertical Interval TimeCode) reader, and dual serial ports. The serial ports can be hardware configured for RS232, RS422 or MIDI. The board can be purchased in any of the minimum configurations and the other options added later.

This dual VTR Control (or MIDI) + SMPTE Timecode reader on the XSync card can be used to synchronise the Amiga with external timecode from video or autotape sources. Priced from £450 (extra options from £90.00), the Zorroll card provides an accessory for MediaPoint, Xanadu's ADC16 HD audio system and Zen's EUROtitler Subtitling system. The serial ports provide two extra serial channels for the Amiga with additional on-board hardware to give MIDI or RS422 directly to and from the card.

Contact: Zen Computer Services, 2 Silver Birch Grove, Swinton, Manchester M27 5FZ. Tel: 061 793 1931.



Will respectability keep the kids from harm? Ratings with "Monitor Man" to guide parent's choices...

on trivialities and start considering the real problems like poverty, hunger, disease, cruelty and war? And what classification does it give the news stories when we see them on TV?"

AUI News File

imports, scales, & anti-aliases: PostScript

A PostScript written for the Amiga

MONTAGE POSTSCRIPT

nnoVision Technology, creators of Montage 24 have announced that Montage PostScript Module is due to be released soon. When using one of the programs, the add-on module allows the user to scale PostScript Fonts in realtime with, say Innovision, an effective resolution of 1 nanosecond. Ultra high-level anti-aliasing is retained at all sizes for, they claim, dazzling network calibre output.

In addition, Montage users can add any character attribute from the program to the PostScript fonts including Embossing, Colour Fills, Translucency, Multi-Directional Gradient Spreads and more. The Montage PostScript module also features 10 special PostScript fonts for video applications.

Getting Netted

miganet supports Amiga platforms A500 to A4000 and is manufactured by Hydra Systems who say it is the only product to be supported by all network operating systems now that CBM have discontinued the A2065 Ethernet board.

You can choose any from Novell (accessed by OXXI's ACS software), Envoy, Decnet, Enlan-DFS, TCP/IP or X-Windows.

Contact Hydra Systems, Red Lane, Kenilworth. CV8 1PB. Tel: 203 473333.

Contact: InnoVision Technology, 1933 Davis Street, Suite 238 San Leandro, California 94577. Tel: 510 638 0800.

SYQUEST DRIVES INTO THE MARKET

S yQuest Technology is targetting the desktop storage market with price cuts for the highperformance 105MB removable cartridge disk drives in 3.5" format now available for under £200.00.

SyQuest removable cartridges offer a fast and easy method of exchanging data between the Amiga, Macs and DOS machines. The RRP for the SQ3105A (AT/IDE version) is £199, while the SCSI model, SQ3105S is available for £299. At £95 the 105MB catridges now offer storage at less than £1.00 per megabyte.

Contact: Datatrax Peripherals Ltd Tel: 0264 362266 or Northamber Plc. Tel: 081 391 4100.

256 GREYSCALE HAND SCANNER

olden Image are offering a package of AlfaScan Plus + OCR bundelled with Golden Image are οπετιτία α ρασκασε οι Απασσαπτίαστα του Επασσαπτίαστα στο Μigraph's Touch Up V3.1x, Merge IT and Junior OCR at the price of £135.00 inc. VAT.

The 256 Grey Scale Hand Scanner for all Amigas (2.5Mb memory and hard disk required) with the latest hardware (105mm plus Scanner Head) and latest software (Touch Up V3.1x) are say Golden Image, ideal image processing tools for office or home environments.

Contact: Golden Image, Unit 12a, Millmead Business Centre, Millmead Road, London N17 9QU. Tel: 081 365 1102.

Wordworth 3

Working with Amigas with 2MB RAM minimum and 2 disk drives, Digita told AUI that for their W/P package Wordworth 3, DigiSense provides auto-correction as you type as well as offering an on-line library. Librarian lets you store text from documents and recall them at any time.

The Human Interface Protocol V2 - is there a non-human interface? combines the Workbench look and feel with the new "super-intuitive HIP style". (AUI is VERY hip!) It includes user-definable requesters (set typeface and size for gadget and group titles), editable pop-up gadgets and modeless object inspectors.

File Support features share files with the Amiga, while Digita Print Manager (free with Wordworth 3) fully maximises the quality and perform-

OH REALLY? No.2

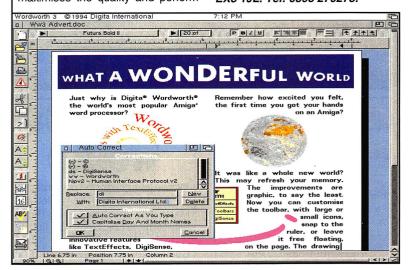
Microsoft will release a user interface later this year called 'Utopia', with the look-and-feel of familiar scenes such as a living room. The company believes that some home users and children find the standard Windows interface confusing. Oh really?

ance of the printer claims Digita.

Selling separately at £69.99 is the 50 Agfa Compugraphic Fonts which contains 50 Agfa fonts, but is also available free with Wordworth 3. (£149.99)

Wordworth users upgrade priced £49.99 or other word processor users upgrade £59.99.

Contact: Digita International Ltd., Black Horse House, Exmouth EX8 1JL. Tel: 0395 270273.



EXCALIBUR!

Cutting through the **Speed Barrier**

A new board is coming that appears from the specs we have obtained to make everything else look snalil-like. Excalibur is for A4000/40 only. Hydra who distribute it in the UK told AUI that it offers a 400% gain, according to NewTek Distributor Test. And that eye-bulging increase costs a mere £650.00 + VAT. But not content with that speed you can whizz along even faster, Hydra claim. Excalibur, in 33MHz form runs, we kid you not, 530% faster.But jumps £500 to £1150.00 + VAT. If you wonder who would want such an expensive bit of gear - for a start think of AUI's own Barry McCarthy who practically swooned at the idea of accelerating his rendering by five times - in other words tieing up his 4000 for a fifth of the time. No more leaving the 4000 on all weekend - Barry.

From noted US hardware people RCS, Excalibur is being promoted as the successor to the famed Fusion-40. Potential speedsters Contact:

Hydra Systems. Tel:203 473333.

QUOTE of the Month

"On EMail the liklihood of a message being read is inverse proportion to its importance." Martin Banks, PC Week. That's the trouble with technology, even if it is more efficient, if you have to make more effort than the old conventional method, most people just don't bother.

CHART ATTACK

S ales of Amiga CD32 software are now outsripping Sega Mega CD software sales according to the industry chart compiled by Gallup.

Just over four months after the first Amiga CD32 title became available, software sales stand at 38.6% of the total CD games market. This compares with just 31.3 per cent for PC CD-ROM, 27.6 per cent for Mega CD, and just 1.8 per cent for Phillips' CD-i. (See Amiga CD! pages for more info.)

LONDON TRANSPORT GETS SMART

London Transport yesterday launched an 18-month trial of electronic smartcards that can be automatically checked by a 'reader' installed on buses.

The card does not have to be fed through a reader by is

radio-scanned while in a wallet. The card contains details of validity, the travel zones covered and the category of traveller. Testing has begun on 162 buses operating on 19 routes in northwest London.

and so does Dublin

Two thousand high frequency users of certain bus routes in Dublin have been issued with a smart card which contains 'money' in the memory. The cards need 'Readers' on the buses, but they can also be

used in public telephones, as car park passes and as 'electronic purses'

It looks like money is on the way out...Or are we going to see a delays due to "Cards on the line."?

OH REALLY? No.3

Cray Research, the company that makes the world's biggest computers, has discovered the world's largest known prime factor, a 258,716 digit whopper that would fill the first third of this AUI!

QUOTE of the Month

"A pox on all those personal digital assistants. The whole bunch of pen-driven, state-ofthe-art machines aren't worth the gunpowder you'd need to blow 'em to hell" Bill Machrone, PC Week. Anybody who paid

£600 for a machine that can't recognise the owner's handwriting twice in a row might agree but Apple probably wouldn't.

WIRELESS WORLD

he love child of the powerpacked alliance of AT&T, Sony, Motorola, Matsushita and Philips, called hopefully General Magic has said that it is releasing Magic Cap - the "Magic Communications Applications Platform.". It hasn't given out details of the machine yet but with that sort of backing it might well be worth keeping an eve on.

At the same time AT&T announced the opening of PersonalLink services, designed for the new machines. Magic Cap, a handheld-size

00 03 11 15 FINAL/TREE. ANIM1 (43) + + + + + +

ptonica have announced that Simpatica, the single frame rendering system for the Amiga will be available with Video Timelapse bundled free. (Normally priced at £199.00)

Video Timelapse allows sophisticated timed control of a professional video deck to produce 'stunning' time lapse sequences of flowers in bloom, fast clouds, sunsets and sunrises, growth and decay or whatever your imagination can create. (No, not THAT! It's covered by the Obscene Thinking Act which the Govern-

mum hardware standard which includes a phone and fax modem and infra red link.

The Group hope that the new software and hardware environment of Magic Cap is the first step towards

With the difficulty that PDAs are having in getting their so far somewhat unreliable technology accepted into mainstream computing, it is interesting to see this very powerful alliance pushing ahead with what may prove to be the next generation of the little monsters which arouse some heavy emotions among their users.

weary journos like your humble servants on AUI just don't believe in magic

computer, is thought to have a mini-

the new breed of PDAs.

(See Quote of the Month this page.) But one problem is that worldanymore... Not even general magic.

Factoid

What was the very first electronic computer? It was a machine called Colussus and was, believe it or not. constrcted in 1943 at the British intelligence headquarters in Bletchley, where they used it to help crack the German codes during the World War II. And don't say that was the last time the British led the world in electronic technology!

ment are considering introducing before the Summer.) Triggering, say Optonica, can be produced by various actions including additional hardware plugged into the mouse port; motion sensors, heat sensors etc.

Apart from special effects for video, VTL is suitable for use in the medical and security industries as the basis for sophisticated monitoring systems.

Simpatica V2.0 and later registered users can upgrade free. Earlier versions £49.95 inc. p+p. Suitable for all Amigas and vodeo decks which support the S9 serial protocol (9 pin 'D' type interface - RS422). Price: £350.00 inc. VAT and p+p. (25% discount for educational institutions).

Contact: Optonica, 1 The Terrace, High Street, Lutterworth, Leics. LE17 4BA. Tel: 455 558282.

n a move that may oddly undermine Pentium, its 586 chip Intel is to introduce a clock tripled 100MHz DX4 processor that will replace the 486DX line.

Due for release, the processor is expected to cost £300 and will run PC applications at a speed approaching that of Intel's 60MHz Pentium Processor. "I don't want to say how close the performance will be to Pentium, but we will be announcing Pentium's next generation, the P54C by the second quarter of 1994" said Intel's spokeswoman Joanne Hasegwa.

The enhanced clock speed together with an extra 8K of on-chip cache, giving it a primary cache of 16K, will increase the processor's performance to around 75 million instructions per second.

75 MIPS! Intel may be running fast but also scared for the Risc-based Motorola PowerPC is already appearing in Apple computers. When for the Amiga? That's a question that we hope Commodore is about to answer.

ICPUG SPRING OFFER

he Independent Commodore Products Users Group is offering a special cut price subscription for members joining from May to December 1994 of £15.50 (including £1.00 share) for UK and BFPO members. (Overseas- Surface £19.50, Air Mail £26.50).

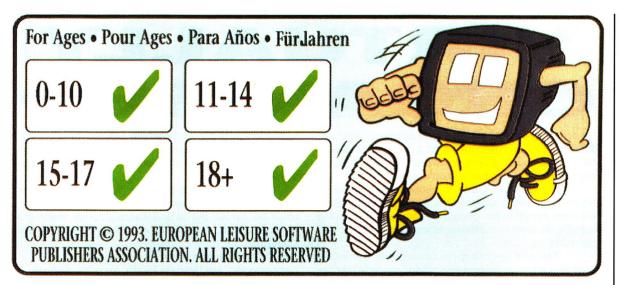
The special spring offer includes four issues of the ICPUG Journal, Free PD software for the Amiga and all other Commodore computers, plus an extensive PD library (DOS and Windows) for the PC. There are technical helplines and discounts. The ICPUG Journal has articles covering Amiga, PC and

the earlier Commodore machines. The for Sale and Wanted column is a means of acquiring items which are now out of production and the Readers Write section is always very popular.

As **AUI** readers will no doubt be aware, ICPUG is an extremely helpful organisation for anyone in the Amiga field. It's non-profit making and is organised by volunteers. It has been in existance for over 16 vears

Contact: John Bickerstaff, 45 Brookscroft, Linton Glade, Croydon CR0 9NA. Tel: 081 651 5436.

AUI NewsFile



This product is exempt from classification under U.K Law. In accordance with The Video Standards Council Code of Practice it is considered suitable for the age range(s) indicated.

Hiding Behind a Fig Leaf

LSPA (See NewsFile Page18) is running around the UK trying to keep the communications media hounds off the games companies' tails by brining in a new classification system for games. In the USA, worried frowns are on the games moneymen's brows too. A coalition of more than 100 US video game companies is to provide a labelling system to warn parents of the level of violence and sexual exploitation in games. ("If your son is good, in this game he can slaughter 3 million wierd aliens. If he's stupid, only 1 million.") The move is in response to the increasinfg pressure from the US Government to curb displays of violence

in entertainmnet especially when aimed at a young audience. (Don't they watch their own TV channels?)

The voluntary ratings project has met with stiff opposition from Congress. At a Senate hearing on the same day as the industry announcement, Senators Joseph Lieberman and Herbert Kohl called for a much tougher national and independent ratings system.

"The ratings system must not be a fig leaf for the industry to hide behind", Senator Lieberman said. Perhaps they consider what was covered up by Adam's fig leaf is a really dangerous weapon...

BLOCKBUSTER BUYS A LITTLE VIRGIN

Plockbuster Entertainment, the world's largest video rental company has bought 19.9% of Virgin Interactive Entertainment, part of Branson's Virgin Group.

The link, they say, will enable the delivery of games and music videos directly to people's homes. With Blockbuster's recently announced merger with Viacom - the US cable company, which itself has just bought Paramount the film company, a powerful force in the multimedia world of the future looks like being established,

According to Virgin. "With Blockbuster and Viacom merging to create a cable company, we could squirt videos or Phil Collins' greatest hits down the line". Virgin has also concluded licensing agreements with the Walt Disney Corporation to turn its films into games. Squirt Phil Collins down the line? Remind us to be out at the time - unless he improves his boring drumming.

PC Ups and Downs

The Compaq ProLinea 3/25zs - a 486 machine - has recently become the best selling PC in the UK, accoding recent research. However analyst Nick Coram-Wright, PC analyst at research company, Context has

said that further growth in the 386SX market is unlikely to be go on, adding that during the last six months, sales of 486 PCs almost doubled, whereas 386SX sales grew at only 6%.

Context's research found the price difference between 386 and 486 machines continued to narrow. The sale of 286-based PCs took a nose dive during 1993, falling 79% compared to the year before.

Maybe Commodore is lucky to be out of the PC market, though there are those who will tell you that is where the big money is. But IBM too has felt the pinch and has dumped its Ambra brand, launched under two years ago with lots of publicity and cash. They claim it was some kind of a controlled experiment to sell IBM computers without the IBM brand and at a lower price. Experiment? Oh really? With prices down and specifications up, the PC world is no place for faint hearts or expensive experiments.

ENERGY SAVING MONITOR

itachi New Media have announced the release of a low radiation multiscanning unit, the 15MVX Plus for the top end of the market.

The 15" monitor can support several resolution standards and has automatic switching to standby mode to reduce energy consumption.

Claimed to cut power by 25%, the monitor can support many resolution standards and has a refresh rate of 50 to 100Hz. There are 20 preset configurations including 8 factory set.

Priced at £499.00, the monitor meets, Hitachi say, international ergonomic standards.

QUOTE of the Month

"The key is to maximise the value of each `software property' by distributing it in as many different formats, channels and markets as possible. Brands such as Paramount's Star Trek or Viacom's Beavis and Butthead can be exploited in cinemas, videos, TV programmes, video games, theme parks and upcoming multi-media formats. When packaged with other brands as cable TV channels, they can be sold from Budapest to Bombay. The Financial Times Wow! The financial world has finally woken up to what "convergence" means. Anyone who has lived through the growth of home computing in the last ten years has already been well-exposed to the idea of licensed games

the idea of licensed games and other cross business exploitation. But the down the line money people are always the last to know anything. As one really enterprising and successful moneyman, billionaire James Goldsmith said,"By the time you spot a bandwagon, it's already too late to get on it."

Royal ACE

Prince Charles dropped in on an Amiga demonstration recently. Well, at least he was there in spirit electronically. On St David's Day, while visiting Wales sporting a daffodil in his lapel a video phone link up was arranged to launch a new concept called ACE - Amiga Centre of Excellence. The first such centre has been put together in a cleverly refurbished stable by the ebullient Bill Owen, ex of Commodore, who recently formed Ramiga, a company itself dedicated to bringing excellent Amiga products to the UK and Europe.

Ramiga has been established in a distinctly rural setting, Pentrfoelas, a tiny village in North Wales that Chairman Bill Owen plans to make a power centre for the Amiga world. With his usual persuasiveness he managed to convince a powerful array of participants to show their wares at the launch of ACE. Not only were Dawn Levack, CBM's National Marketing Manager and Kieron Sumner, Commodore's top multimedia honcho, gracing the proceedings but there were also presentations made by Andrew Gould of Premier Vision showing the National Trust system he created and reported on for AUI, Mick Tinker of London Transport Museum fame and a whole raft of other serious stuff Amiga developers demonstrating the Amiga technical wizardry.

Their audience, apart from Prince Charles who called up on the video phone during the day, was largely made up of local notables who, it must be said, appeared just the tiniest bit overwhelmed by the dazzling technostff thrown at them by the experts. "Platforms...Gigabytes..Magneto-optical..Video CD..." The jargon was clearly a little beyond their experience. But impressed they certainly were. "Platforms..." sighed the charming mother-in-law of Peter Simonovich, Ramiga's MD, "I though they were for railway stations..."

With teleworking and the other joys allowed by today's telecommunications revolution, plus the enterprise of people like Bill Owen, a quiet village in the Welsh wilds near a white-capped Snowdon may turn out to be a key centre for Amiga development. Stranger things have happened even in Wales...

VIRTUALLY ORGANISED

Aconsortium of UK industrial and academic partners, led by BT, is collaborating on a project that aims to create a computer-generated environment where users can work with each other, regardless of location.

Using virtual reality to support operative work across dispersed groups, Virtuosi, as the project is called, will allow people to join discussions and problem solving activities at home or in different offices or factories across the world.

Two pilot services will be developed for the project - one aiming to improve communication between a number of BICC cable factories throughout the world and the other

based in the textile and clothing industry to allow cooperation between a number of small and medium-sized enterprises involved in the design and manufacture of fashion garments.

A few years ago when the "futurist" Alvin Toffler said that by the end of the century as much as 25% of work could be carried out at a distance through electronic communication, the UK media treated the idea as ridiculous...

Contact: BT Development and Procurement, BT Laboratories, Martlesham Heath, Ipswich, Suffolk. IP5 7RE. Tel: 0473 647448.



A Case of Exec

If you have a laptop, note book computer, loads of diskettes or even a calculator or two and perhaps need to carry a spare shirt around then there's a computer case that thinks its a briefcase that might be just the thing for you. It even has a special compartment where a computer will fit snuggly – unless that's for your shirts.

Included too, there's a very neat 31/2" disk holder and a copy holder too that will take A4 size pads.

If you are on the move a lot and you need something that will keep your valuable electronics goods safe, this Executive Computer Case looks like an ideal way to do it. Price £79.95. Contact: Telephone 091 510 8787

RIGHT SECOND TIME

S pecial Reserve, the Games Club has been telling *AUI* of their difficulties with the original and much publicised Overdrive Hard Drive, having to cancel their order after 80 drives revealed an unacceptable failure rate.

The new version of Overdrive, Special Reserve told *AUI*, features a revised hard drive controller and improvements to the casing and power supply unit. The new hard drives have been fully tested and found to be reliable, capable and fast, according to

Special Reserve. They are 'substantially faster than 2.5" hard drives which can be fitted internally to the A1200.

There is now, it seems, a shortage of the smaller capacity hard drives! So Special Reserve are supplying only 250 MB and 340 MB versions.

Prices:250 MB Overdrive hard drive £299.99 or 340 MB Overdrive Hard Drive £379.00.

Contact: Special Reserve, PO Box 847, Harlow CM21 9PH.

Tel: 0279 600205.

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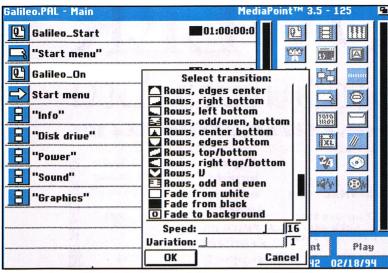






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AUI TEST DRIVE



Plenty of wipe transitions, but how can you preview them?

he Amiga is undoubtedly the best machine on this planet for multimedia applications and has several top notch authoring tools to prove just that. The undisputed king of the scene is Scala MM300 which has been more or less unrivalled until now. MediaPoint, from Activa, is hoping to steal a large slice from Scala's cake which makes this an interesting Bruno vs Tyson type battle.

Icon See Clearly Now

MediaPoint is an object driven package, which means you can sail through creating pages of attractive multimedia stew just by clicking on icons, using windows and waving your mouse around. The main screen is the script editor, which acts like a command centre, with the details of your assets (graphics, sounds and events) on the left of the screen and object icons on the right.

These object icons are the essence of Media Point, each representing an event such as a page, a sound sample, music, animation, a branch, a Shell command and many more including direct support for extra peripherals. GVP's IV24, audio from CDTV, CDXL, Sunrize's sound cards, MIDI, laserdiscs, VCRs, and Canon's ION camera can all be controlled, as standard, from within Media Point.

To include some graphics in your script, simply drag the "page" icon over into your script and drop it in. A file requester pops up so you can select either a premade page or an IFF graphic to load. The file requester can be toggled between the regular type

and a visual list of scaled down images of the pictures in your directory. Eight or sixteen colours can be used to display the thumbnails or 32 on AGA machines. The colour pics are great, but creating the thumbnails takes time and you can't preview the graphics at their full size.

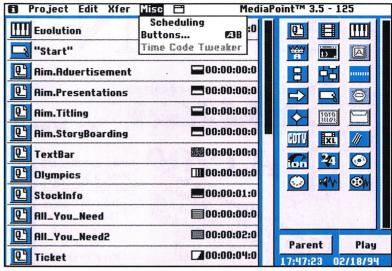
Page Editor

The Page Editor is the place to go when it's time to indulge in a little creativity. All assets that are placed onto a page have to live within a rectangular box, something similar to desk top publishing. Don't be fooled by the simple shape of the boxes because, by using the drag bars (handles), graphics can be rescaled or cropped (not both) very easily and it's pretty fast too.

Holding down the Ctrl key on the keyboard reveals hidden information contained in the boxes. Layout rulers show up on

each box and they can be individually altered by dragging them, hence changing the justification of any text contained inside the box. This gives a lot of control over exactly where your text is aligned, which means the whole page doesn't have to conform to the same rulers and margins.

Another aspect the Ctrl key reveals are lines connecting all of the boxes. This represents the order in which the boxes appear on the screen, and you can also toggle the depth of each box using a tiny depth gadget on the boxes. It works very well with 10 or so boxes but with any more the



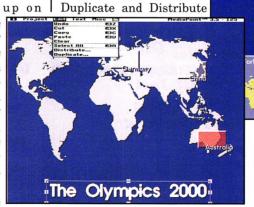
The Script Editor with its pull down menus.

Media Point

Enter a brave contender into the multimedia authoring arena. Has this new boy got what it takes to topple the competition? An intrigued Gary Fenton muscles in on the action.

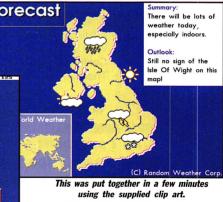
connecting lines begin to look a little like a telephone cable junction!

The highly original Duplicate and Distribute



The Page Editor uses pull down menus too, and you can see an active box at the bottom of the screen.

features are a brilliant touch. One will copy boxes and place the copies proportionally next to each other, and the other distributes boxes neatly along the screen.



Box Clever

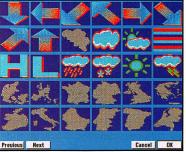
Each box can be any one of three states: totally transparent, patterned (50% transparent) or solid. To change from one state to another you can use the Function keys or go to the pull down menus and select "Define" or press Amiga + D. A window pops up where you can choose the state of each box and add optional borders and change their colours.

AUI TEST DRIVE

Boxes can be placed anywhere on the screen as long as they don't go off the edge. The cursor keys will precisely move the boxes around for perfectionists or if you find it difficult to place things exactly with the mouse.

Double clicking on a box (even those containing graphics) enters into text mode. The handles disappear and a flashing cursor materialises prompting you to start typing. When you reach the end of a line the text will automatically wrap around to the next line – if there's space.

Each box of text can be of any colour, font, size, shadowed or outlined (not both), anti-aliased and style (bold, italic, underline). Furthermore, each character of text, on the same line or anywhere, can have its separate colour, font, size and style. This is brilliant and



The visual file requester in action using just 16 colours. The latest upgrade (not available at the time of writing) is said to employ dithering routines for greater colour variation.

is something that Scala still can't do! Text can be highlighted and word processor style cut, copy and paste actions can be carried out. Taken one stage further, whole boxes of text and graphics can be copied too which saves precious time.

Hitting the Help key summons the literals requester. This is a list of all those nasty letters that don't appear on the keyboard, like ©, æ, ø, and so forth. Variables can also be dumped in as text, such as the current time, date and even a text file which is loaded just before the screen appears when playing. It could be very useful if you plan to use MediaPoint as a live information display system.

Importing

Using the menus, or stabbing the "I" key, hails the import requester allowing you to draft in a new background picture, a graphic (as an object), a screen (this sucks in a screen grab from any other programs you have running, like DPaint!), a text file or something else using a WB3 Datatype (load

JPEG, GIF, PCX, etc files providing you have the correct Datatype installed).

Interaction

Any box can be turned into an interactive button just by nominating it from the Buttons menu. Global keys can be created which have the same function no matter where you are in the script. For instance, the Help key can



Mixing fonts and colours is so easy.

make your script jump to a help page which you've created previously.

Getting feedback from the user and working with variables has been well thought out. Simple "If X > Y Then Goto..." statements can be built up from a Variables object in the script menu.

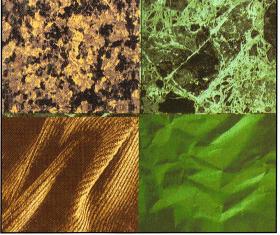
Serial branching out into sub scripts is a great function which means you can break up long winded scripts into tucked away sections. They can be given labels and executed using Goto commands.

Parallel branching has all kinds of possibilities, like running an animation while cuing sound effects and video clips from a VCR. Powerful timecode tweaking features will sort out precise timings for you which make the results well worth the effortless mouse clicks. SMPTE/EBU, MIDI, or H:M:S:T (Ticks) timings can be

selected according to what you need to

Wipes

MediaPoint has over 80 wipes which work with windows (boxes), pictures, text, and pages. Objects on pages can be wiped both in and out of the screen. Some of the Mediapoint's effects I haven't seen before and they all work very well.



Over 200 pieces of clip art and backdrops have been thrown in!

I particularly like the curved wipes which move graphics and text into the screen using a curve path as opposed to a straight line. Another favourite brings on the odd lines from one side of the screen and the even lines from the other side. Sadly the wipes can't be previewed, which is very annoying when you want to try them all out to see which one looks best. Instead you have to run the page from the Script menu.

Conclusion

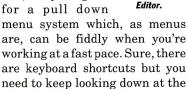
MediaPoint has come a long way since I first tested a beta version

Animations

Import options

from the Page

some 10 months ago. It's packed with features and the script editor is very well thought out and easy to use. My only concern is with the page editor. Instead of opting for a toolbox, they've gone for a pull down



Skipping from the script to page editor is simple. However, you have to save the page to disk everytime before jumping from the page to script editor. Why not have an autosave feature when you quit back to the script editor?

keyboard to use them!

Gripes aside, MediaPoint is a worthy multimedia package which performs well and does the Amiga proud. Branching and parallel scripting is superb which makes it the best package around for highly interactive scripts. **AUI**

MediaPoint Vs Scala

Hmm, a tough one. For pure ease of use, production speed and wipes, Scala wins hands down with its fuss-free interface. For script handling MediaPoint is the clear winner. It offers cut and paste features for script editing which Scala lacks. Also the branching out and sub script architecture works exceptionally well with MediaPoint. However, Scala has an optional and useful visual storyboard (Shuffler) which is missing from MediaPoint.

For scheduling and time-

table features you'll have to buy Scala's more expensive brother (IC400) but MediaPoint has all this as standard (except remote site data transferring). Both packages are expand-

able by soft-ware modules, both have a simple scripting language, both spool animation and sound from hard disk...

Each package has features which the other is missing and no doubt both parties are keeping close tabs an each other trying to keep one step ahead. Upgrades for both packages are in the works and all this competitiveness can only be good news for Amiga owners. I can't decide which one to buy for you, (I'm not staying neutral, it's just that they both have their pros and cons!) so you'll have to draw up your own requirements and see which package fits closest to your bill.

RATINGS

MediaPoint

Wediai oii	
PERFORMANCE	90%
FEATURES	92%
EASE OF USE	75%
DOCUMENTATION	75%
VALUE FOR MONEY	92%

Overall Rating 85%

INFO

Price: £256.00 + VAT
Contact:
Activa International
Unit 20 Phoenix House
86 Fulham High Street
London
SW6 3LF
Tel: 071 371 5241

E-X-P-A-N-D-E-R

'm using Disk Expander. But you'd never know.

Is she or isn't she? Remember that advert for Harmony hair spray? Well, Disk Expander is just the same, but you don't put it on your hair. I did and it went all greasy and unmanageable.

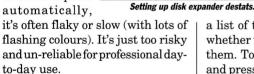
Would you like to double the size of your hard drive? Yes? Then you need to buy Disk Expander, because that's essentially what it does.

Whatit actually does though is compress all your files down to an average of around 50% of their original size. It then de-compresses them when ever they are needed. This is not new to the Amiga market. There have been many compression routines around for years, on the PD and shareware scene. You must have heard of LHARC, LHA, PKZIP, PowerPacker, TNM-cruncher, ANCcruncher and many

System3.8

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others. They all aim to compress your data as efficiently as possible. The main problem comes when you want to use the compressed files. If they will de-compress automatically,



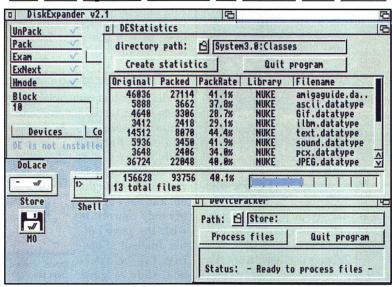
Disk Expander adds professionalism. It compresses all your files and decompresses them in a completely invisible manner. If I didn't know it was there, then I wouldn't know it was there. If you know what I mean? No menus, no requesters, or flashing... Just suddenly finding that I have twice as much space on my hard drive. Excellent!

Interfaces

So how does it work? I don't know, but it does!

Actually I do know because I've been using it for the last week. DiskExpander is made up of 3 interfaces, all of which open on the Workbench, bearing in mind that this is just for initial setting up:

Barry McCarthy's eyes open wide as his file space swells to twice the size.



DiskExpanderitself, DevicePacker and DEStatistics.

The main interface is obviously Disk-Expander. From here,

you choose the compression routine to be used on each device. These routines are libraries which come with the package but more, from the public domain, can be added if you wish. There is also

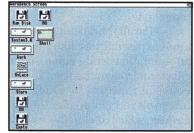
a list of the available devices and whether they have DE installed on them. To install DE, pick a device and press Install. Now, if you want the latest settings to be automatic upon bootup, just click on ModifyStartup.

The final choices on this interface are whether the device automatically Packs and/or UnPacks files and whether file programs like Directory Opus show the packed file size or original file size. All these options are set for devices individually.

DevicePacker is the next up. This is a very simple requester that enables you to pick a device, directory or single file (including sub-directories or not) and pack or unpack depending upon the DE settings for the device. This is obviously essential for whole drives that haven't yet been packed.

Vital statistics.

WARNING WARNING WARNING: Be VERY careful NOT to pack certain files. Read the manual about this because if you don't, you'll find that your Amiga will NOT boot at all. Hey, guess how I know this? Yep, I didn't read the manual. An easy way to stop a file EVER being packed is to



Disk Expander in action. Er...where? Exactly!

set its P (Pure) Protect bit. DE will then never pack it. Directory Opus is a good program to do this with. In fact, DOpus is a good program full stop. In fact, how on earth can anyone do without it?

Speed

DEStatistics is the last bit of the package. This will give you a list of all files in a device, directory or even a single file; Original Size, Packed Size, Pack Rate, Library Used and File Name. It works fairly quickly.

Once you've gone through the hassle of setting up devices and prepared them with DevPacker, you can do a final ModifyStartup and then quit all of the DE programs. Now, when you boot the Amiga, DE will work away, compressing and decompressing all your files without you ever knowing about it. The only way you can tell, is that there is a very slight lag in time taken to read and write files. It really is very slight though.

Quibbles

This is not to say that it is without things that I'd like to change or add.

How about the ability to quit Device Packer and DEStatistics for that matter. These processes can be very time consuming on a large drive. What if I suddenly need to use the Amiga in the middle of the operation? It really is a pain in the Arnold Swartzanegger. And DON'T just reset the Amiga for god's sake! You could quite easily lose files, blocks or un-verify your drive if it's in the middle of a write.

I would love to be able to set up different options and packer libraries for different directories within a device. There are some types of files, like images, that could do without being packed or scanned at all.

Finally, the interfaces for each element don't all fit on the Workbench at the same time. Yuch. How about combining them into one? At least make them fit all together.

Conclusion

Once you get it installed to your liking, it's wonderful. Buy. **AUI**

RATINGS

Disk Expander		
FEATURES	80%	
EASE OF USE	94%	
PERFORMANCE	95%	
DOCUMENTATION	92%	
VALUE FOR MONEY	96%	

Overall Rating 94%

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The 10 out of 10 Series Try it Rapidly becoming Britain's favourite choice in educational software FREE



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Maths (Number)

For children 6 to 16 years

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"Excellent for reinforcing specific mathematics knowledge." - Junior Education (July '93)

"The 10 out of 10 Series lives up to

8 49 H Vamber

Early Essentials For children under 7 years

"Outstanding. All of the activities are not only very enjoyable but they're well thought through. It's one of the best multi-purpose infant packages I've seen in a long while. If you have young kids get it for the home. If you're a teacher, hammer on the headteacher's door and beg for money to buy a copy." - Archimedes World (July '93)

"At just £25.95 you'll be hard pressed to find anything which even comes close to Early Essentials."

- Micro Computer Mart (Sept. '93)

English

For children 6 to 16 years

"Everything being done is relevant to the player's education. An invaluable curriculum experience, plenty of fun,

lots of variety."
– PC Hame (November '93)

"Guaranteed to sustain the attention of even reluctant learners." - RISC User (January/February '93)

"Most importantly, as the games are fun, children can't help but learn."

- Acorn Computing (March '93)

"Allows progression from Junior school age right up to GCSE level

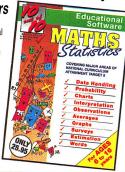


Maths (Statistics)¤

For children 6 to 16 years

Attainment Target 5 of the National Curriculum is Data Handling - a vital area of Mathematics. 10 out of 10 Maths (Statistics) covers 36 specific topics from that subject. In this package, recording animal

sightings in an animated pond or rolling dice are just two of the many challenges that children will relish as they learn about statistics. And can graph drawing be a game? It becomes arcade action as bricks and bombs are dropped onto the charts. This is a really enjoyable way to learn about statistics.



French¤

For children 6 to 16 years

This suite of six educational games will give fun and motivation to all children learning French. The package is designed with the Modern Languages National Curriculum firmly in mind and contains many challenges to reinforce facts stated in Attainment Targets 3

10 out of 10 French is essential for children on Key stages 3 and 4, but the numerous parent and teacher customisation options make the software suitable for all children however young – who are learning the French language.



Driving Test[¤]

For all drivers and learners

Whether you're a novice learner or an advanced expert, there's plenty you can learn from this package. There are thousands of built-in questions and you can choose whether you want to answer them directly or add to the fun by trying them within games.

The six games have been designed to be fun for all adults and include strategy, mental agility, coordination and more. And, if you think you are up to it, you can "take the test" challenge covering many areas of



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specific challenges - the National Curriculum Attainment Targets of these areas are optionally displayed on screen in subject-based packages. All the programs are designed in Britain to be fun for single players or groups and the assessment system can monitor the

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AUI TEST DRIVE

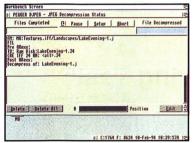
PEGGER

Barry McCarthy sings the old song "Peg O' My Heart" about a new piece of software that does as it is told.

ot Peggy. This is a completely different thing.

And it's great!
A really well designed and programmed piece of software. It does exactly what it says it does and does it exactly the way it says it does it. No bugs, no crashes, no incompatibility.

Well, of course this is what all software should be like. Doing what it says it does. Unfortunately life just isn't like that. Or is it? Is it me, or is the Amiga software market becoming more professional? Programs that work without a hitch. Good manuals, tutorials and features. Interfaces and installation that follow a standard.



Reporting actions.

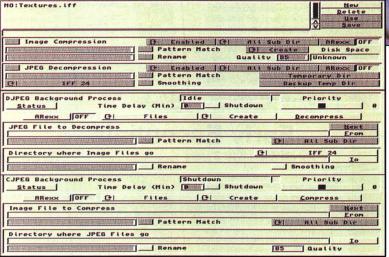
This returns me to a continuing argument. Do you establish

a standard interface and follow it or does each piece of software strive for it's own individual style and idiosyncrasies? I am more convinced now, than ever, that my original argument was correct. Standard interface styles, standard requesters, standard installation, shared libraries and resources. Each new

program fits seamlessly into your environment at the press of a button. Menus and requesters are familiar. The learning curve is cut down considerably and the program works without a hitch.

This approach doesn't stifle the creative development of the computer's interface as long as there is cooperation between program-mers and the manufacturers of the computer. Development is shared by all who develop for the system.

Now we are seeing the fruits of this sort of cooperation. A solid and professional interface with a growing suite of high class prod-



Running all 3 modules on a custom screen.

ucts that really do the job. I genuinely feel that the Amiga has finally grown up.

Having used Mac, MSDOS and AmigaDOS, I quite honestly see the Amiga as the more user-friendly and useful operating system of the three. And that's the first time I've said that.

Anyway, back to Pegger. Uncoincidentally (can I say that?), it's all to do with JPEG image compression.

IMRGE DO JPEG

JPEG DIMAGE

JPEG()-

Running on the wb.

JPEG & MPEG

They sound similar don't they? They are. And they're not. Fundamentally all they do is compress detailed digital image files into a much smaller size. JPEG only compresses INDIVID-UALimages, one at a time with their own individual

amount of compression. MPEG compresses ONLY sequences of images (like an animation), saved as a single MPEG file (like an animation). It's just the same as the difference between the IFF pic and anim formats.

So, Pegger is a JPEG tool. It can do all of the following and all at the same time:

Compress or decompress a single or a batch of files, replacing them or creating new files along side them.

Automatically compress or decompress files as they are created or used, in any number of directories and sub-directories.

This is only really going to seem impressive if a) you deal with JPEG files a lot and b) you are actually using Pegger.



The super dooper snooper.

Let's set up a scenario:

I'm rendering a complicated 3D animation in Imagine. The objects are covered in 24 bit texture maps, stored in a collection of 'subject' directories on my Magneto Optical drive (Where I keep my JPEGed texture libraries). The background behind these objects, is a huge 24 bit animation, kept as JPEG frames on my harddrive. There is also a Global map to reflect in metallic and shiny objects (this too is a JPEG). Lastly, as the frames are rendered, I need them to be dumped to tape via a frame controller and then JPEGed at 85% and replaced by the new JPEG files for storage.

Wow! Simple, just tell Pegger which directories or whole devices, including sub-directories to scan and whether you want compression, decompression or both. Set JPEG percentages for all the compressions and whether to create new files or replace the old ones

Shockingly good!

and whether to change their names if you like. Lastly, set up one precompress AREXX script, to tell the frame controller to display and record the frame to tape.

Now render. Imagine will get on with its job as usual. In the background, Pegger will do all of the above. You can have it tell you what it's doing with little requesters or it can be completely invisible.

Pegger can be open or iconised, on the Workbench, public or custom screens and can be interlaced or not. It can use RAM for JPEGing or any other device if you wish. The manual is informative and easy to read, without being excessive and it includes many tutorials and tutorial files.

Oh yes, it's also fairly fast at both compression and decompression.

Conclusion

If you have a program that doesn't load or save JPEG files, Pegger will do the job. If you need batch JPEG processing, Pegger's the one. If you don't use JPEG much, don't buy it.

In my opinion it's a fabulous little program that I will keep close to my heart. Until all my other programs load and save JPEG, that is. **AUI**

RATINGS

Pegger		
FEATURES	96%	
EASE OF USE	90%	
PERFORMANCE	95%	
DOCUMENTATION	96%	
VALUE FOR MONEY	72%	
Overall Rating 90%		

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nning

want to make one thing absolutely clear from the very start. I love this scanner. It and I would love to make beautiful music together, but the editor won't let it out of the office. (It's a scanner, $not\ a\ sampler-Ed).$

So, the Epson GT-6500 is wonderful. Why? It just is. The results are stunning, even if you scan at a relatively low dpi, say 100.

In the November 1993 issue of AUI we reviewed two handheld scanners and concluded they were excellent value for monevasthey pro-

I've graduated from hand scanners to flatbeds and I shan't look back.



vided good quality results for a respectable price. This new GT-6500 flatbed scanner from Epson is not as competitive in price, but the results are of exceptional quality and acceptable for professional purposes. Scanning at anything up to 600 dpi (memory permitting), the 6500 is adequate for any use, unless a small picture is being enlarged to ridiculous proportions.

If you need this level of quality, then forget handheld and consider the Epson 6500. It's the difference between a Gamebov and an Amiga CD 32. One on the bed is infinitely better than one in the hand, as the saying goes.

Setup

Setting up the scanner is very simple providing you have the necessary cable and software. If the scanner is bought from an Amiga dealer, then it should come supplied with either the ASDG software (see below) or their own version. Note that the scanner will not run with a standard parallel cable; it does require a specifically designed bi-directional cable. However, once you have everything, then hook it up, plug it in and get scanning. Very easy indeed.

Size

The scanner will accept images up to A4 in size, but the dpi available

Line art is simply perfect, scanned at a low dni. such as the 120 here.

will depend on the amount of RAM you have. To get the most out of this ma-



chine, you must have a respectably-equipped system. It would be unwise to use it with an unac-

celerated Amiga, although an A1200 is not too slow. RAM is even more important and we'd suggest an extra 4 Megs minimum in an A1200. The more the better obviously. If you are interested in this scanner though, your system is likely to be even more advanced than this and so much the better.



The Enterprise hovers into view thanks to the GT-6500 - just let your imagination go. **◀ O**bjects can be scanned in with some amusing

results.



The GT-6500 produced during one of Epson's finest hours.

There are few controls on the scanner itself-zoom and brightness. These controls are overridden by the software, which is a blessing, not because there is any problem with these controls, only that the software makes life a dream.

Conclusion

I will conclude as I began. I love the GT-6500. Epson will have to remove it surgically from my person to get it back. If you need or want a professional scanner, then look no further, unless you can stretch your budget to the GT-8500, which scans up to 800 dpi. Wow! AUI

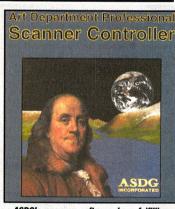
the Horizon

Epson's GT-6500 scanner makes life so wonderful that David Taylor, after test driving it, may need the attentions of a surgeon.

Sky's The Limit

Going parallel port in parallel port with the GT-6500 is ASDG's software.





ASDG's scanner software is a fulfilling addition to AD Pro.

This Epson scanner may be all goodness and light. but it is a tad picky on what it will run with. It requires its own driver and cable and these should come supplied with the scanner, if you state which machine you are intending to use.

ASDG's software will run as either an addition to ASDG's excellent Art Department Professional or as a stand alone "scan-to-disk" program. When used in conjunction with AD Pro, the sky is the limit.

A preview scan is offered in black and white, which allows you to size the scan and cut out unnecessary borders. After accepting this, the dpi can be edged up to the extremes of RAM available and the brightness adjusted, if the original is a little dark or light.

The image can then be viewed in AD Pro, flipped, cut, etc as with any normal picture in the package. AD Pro's power just continues to grow. (How about an updated interface though?)

The whole package is simplicity that disguises the awesome flexibility beneath.

The "scan-to-disk" will behave in the same way, but puts the scan straight to disk (harddisk if you want a scan of any size) as 24-bit colour data. You will need some viewer to use it and convert the image. Because of this, I recommend this package if you already have AD Pro. Then, life is wonderful.

Rarely do you get to rave and rave without having to make some complaint, so this scanner and software made my month.

Congratulations to all concerned. AUI

(for scanner and software)

FEATURES	95%
EASE OF USE	97%
SPEED	80%
PERFORMANCE	98%
VALUE FOR MONEY	90%
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Overall Rating 95

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TypeSMITH 2.0

Graham Baldock tests an interesting upgrade

hen I first used Typesmith I raved on about it, even though it was only possible to use it with structured graphics, which I personally find difficult to work, but I

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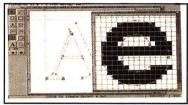
Q

have been using it for various functions ever since. With their new release however, the updated 2.01 version now also allows the user to create, edit and save fonts in bitmap form, ideal for all those graphics packages which now abound, and ideal for me too.

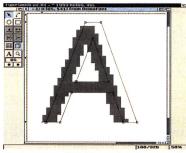
The difference in this package to Personal Fonts Editor which I re-

viewed last month, which was solely a bitmap font generator is that it is in comparison, so uncomplicated and easy to understand. For an example, look at the toolbar - much simpler and with only a few strokes of the keyboard I had drawn my first letter. If you want to convert an outline font into a bitmap, just load it in, pull down the new bitmap font command from the menu and enter in the size you require. It only allows type sizes up to 36pt, but this will probably be large enough for most applications.

The way this has been acheived is by relacing the font rasterizer with a much faster and higher quality version. It speeds up the functions of the 2.0 version no end and generates bitmaps on 69030 and 68040 in approximately 2 seconds! I'm afraid you out there with 68000 and 68020 models may have to wait a little longer, say 10 seconds but then that's your fault for not upgrading sooner!



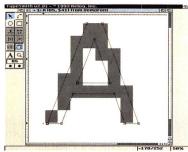
Structured and Bitman fonts in one nackage



12pt Bitmap size

A patch program which will fix the problems reported for those users of 2.0 is available on the Soft-Logik BBS, Genie, Compu-serve and Portal boards so that some features can be updated and corrected. With 2.01 some of the problems solved are as follows. The fill leaking problem which was annoyingly encountered with some DMF fonts, exporting a Compu-graphic Intellifont with hints toggled now generates character level hints as well as font level hints improving their appearance in low resolutions, all the choices in the Options requester are now saved properly and the Type and Print Preview panels have had their little problems fixed and exporting ABF files now work correctly so I am told.

All in all the new Typesmith is a vast improvement on a very likeable piece of software. AUI



36pt Bitmap showing the outline font on which it

Typesmith 2.0			
FEATURES	95%		
SPEED	85%		
EASE OF USE	90%		
DOCUMENTATION	90%		
PERFORMANCE	86%		
VALUE FOR MONEY	80%		

Overall Rating 90%

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AUI TEST **D**RIVE

Back to Gravis's Pad



David Taylor throws his joystick to the wind and paws the new pad from Advanced Gravis instead.

s soon as anyone used to mentionjoypads, I would scream 'Nintendo' and run like hell. Since Commodore released their CD 32 console with one of these controllers though, I've had to be a bit more open-minded.

Despite the move by Commodore, only a few joypads exist for the Amiga, but the ones that do are surprisingly good. I hate to admit it, but they really can give joysticks a run for $their \, money. \, OK, some \, games \, still \, feel \,$ better with a stick in your hand, but it's quite easy to become converted to the joys of pad.

This new controller from Advanced Gravis is one of the better examples of joypads to be seen. It's sturdy and comfortable, which are the two most important aspects of a pad.

Of course, for the vain and superficial amongst us, the Gamepad looks quite good too!

There are four buttons, the effects of which can be changed with two switches. This means that virtually any specific moves that rely on fire buttons can be worked out - for instance, the difference between a roar and a swipe on Brian the Lion can be distinguished by a separate button for each. Very handy. In effect, the joypad has two separate fire buttons.

The direction controller too gives you options. The pad itself can be used as just that, or a mini stick can be screwed in to create a small joystick - the best of both worlds!

As a last point, the lead is a respectable length too. In conclusion, the whole thing has been really well designed.

It works perfectly on all Amigas and also makes a pretty ideal second controller for the CD 32 giving the welcome option of two player games. AUI

Gravis Pad			
Features	83%		
PERFORMANCE	87%		
EASE OF USE	93%		
DOCUMENTATION	87%		
VALUE FOR MONEY	75%		

Overall Rating 85%

INFO

Price: £32.95 Contact: A.I.M. Limited PO Box 10 Sutherlane SR4 6SN

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Get the amazing Gamepad from Gravis and receive the great Amiga Five-O Gamebook free! - for a superb offer price only from AUI. Simply fill in this form.



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AUI/E

AUI TEST **D**RIVE

MultiFaceCard III

<u>Frustrated with just one serial and parallel</u> <u>port and want more? "Yes!" says Gary</u> <u>Fenton testing out a new multi-port card.</u>

ith a modem, a sound sampler, a printer and a MIDI interface you'll be pulling your hair out each time you reach for the back of your Amiga to swap over your peripherals. I know I do! But help is at hand with the new MultiFaceCard III from a joint venture between Alfa Data and bsc (still without capitals!).

The MFC provides two additional serial and one parallel port on a Zorro II card which easily slips into Amiga 2/3/4000s (with WB2+). The back of the card houses one 25 pin parallel connector and also a 9 pin PC type serial connector. The second serial connector comes on a metal plate which can be attached to one of the expansion panels at the back of the Amiga. This effectively forfiets the space for an extra Zorro card, but I've got round this by dangling the serial connector out of the back of my Amiga! Messy,

but I need the space!

Theinstallation software must be run as it sets up the new drivers and necessary patches. It also gives you the option to route all printer activity through the new parallel port. DuartPrefs is installed into your Prefs drawer which is the MFC's configuration software. I do advise you to read the accompanying manual first as configuration can be daunting for less experienced owners.

The new serial ports are called DUARTO: and DUART1: and the parallel port has been christened PITO:. (Sorry, I don't know why!) Nearly all comms and BBS software can access the new ports including JRcomm and Ncomm. The drivers are well implemented which is just what I expected from bsc! You can additionally run a compatible variation of ParNet using PITO: with a supplied program called PiaNet. Speeds can reach 100k/ps!

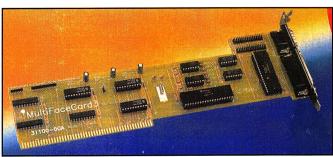


two faced!

Please note that most MIDI software and parallel based video and audio digitisers will not work connected to the new DUART and PIT ports. This is because those products are designed to work directly with the Amiga's hardware and therefore must be connected to the Amiga's standard ports. Software which politely uses Devices can be tricked into using the new ports through the supplied Map-Device program. MIDI interfaces, it is claimed, can be made to work by changing a component (Don't like the sound of that!).

Conclusion

Overall the MFC works a treat with ParNet, printers and modems. Once you've digested the manual you'll be well away! Definitely a must for people with lots of peripherals. **AUI**



RATINGS

FEATURES 75% PERFORMANCE 93% INSTALLATION 77% DOCUMENTATION 70%

Overall Rating 80%

VALUE FOR MONEY

INFO

Price: £129.00 Contact: Golden Image Unit 12a Millmead Business Centre Millmead Road London N17 9QU

Tel: 081 365 1102

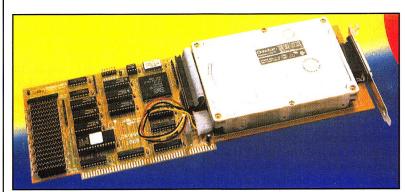
n IDE controller is fine if you don't demand too much from your Amiga. However, the world doesn't end with IDE drives because those of the SCSI type are generally far more impressive. Data transfer is faster and you can connect up to 7 devices to each SCSI controller.

The upgraded Oktagon 2008 is a Zorro II card for the Amiga 2/3/4000 featuring a SCSI 2 controller with space for up to 8Mb of RAM. A 3" hard disk can be mounted onto the belly of the Oktagon card which will save you using a valuable drive bay. External SCSI devices can be easily added using the external 25 pin connector at the back of the Oktagon.

Although this product is billed as a SCSI 2 controller, be warned that it doesn't offer SCSI 2 speeds. It simply supports SCSI 2 commands and offers regular SCSI transfer speeds. In tests using DiskSpeed, Iobserved transfer rates of just over 1Mb per second with a 105Mb Quantum drive. The controller can actually handle up to 2Mb/sec. It performed slightly better than the SCSI controller built into the A3000 and file and direc-

OKTAGON 2008

<u>Gary Fenton test drives the latest SCSI</u> controller offering from bsc.



tory manipulation is very good, on average 15% better than results obtained with the A3000's own con-

troller.

Installation was a doddleliterally plug and play. You don't need to run any software at all unless you need to format a new

The Oktagon board from bsc.

drive. Those good guys at bsc and Alfa Data have bundled a special version of GigaMem, which gives you up to 1 gigabyte of virtual memory depending on the size of your hard disk.

The 8Mb RAM expansion option is only for 16 bit RAM and not 32 bit. You can add 16 bit RAM to 32 bit machines, like the 3 and 4000, but it slows the machine down. Thankfully Amigas use 32 bit RAM first before accessing the 16 bit stuff.

Conclusion

The Oktagon is a very good SCSI controller and I really recommend it, especially to A4000 owners who want to add SCSI drives. **AUI**

RATINGS

Oktagon 2008		
FEATURES	75%	
PERFORMANCE	85%	
INSTALLATION	90%	
DOCUMENTATION	70%	
VALUE FOR MONEY	85%	

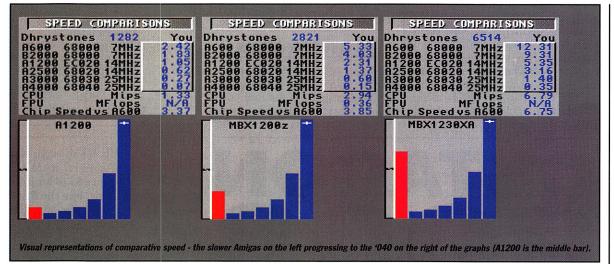
Overall Rating 82%

INFO

Price: £129.00 Contact: Golden Image Unit 12a Millmead Business Centre Millmead Road LondonN17 9QU Tel: 081 365 1102



processor instead of an '030.



Installation

Installation was as simple as fitting anything to the trapdoor ever is. I once had a RAM card for the A500 which continually fell out. There's no danger of it with this card as it takes a forceful shove to ram (!) it home. Once in, it's not going anywhere. So it's quite easy to fit, but may make nervous users a little worried.

The best feature of this board is the 32-bit FastRAM, which performed flawlessly. The extra RAM is always a bonus, allowing the A1200 to shift up a gear. Multitasking and handling large files becomes a reality. Amazing as it seems, given that only a few years ago 64K was considered large, the standard 2 Megs is now becoming too little for anyone who needs to exploit poweful packages such as AD Pro. Any RAM board then, or at least any RAM board that doesn't cause problems, is welcome.

The Maths co-processor never really changed much for me. It speeded up certain graphics handling, but not by the amount I'd hoped for. I became frustrated after a while and just wanted to swap the board back to the MBX 1230 XA. The FPU didn't change enough for it to seem worth spending the money on.

Certainly when the whole package is combined, as on the board from Gasteiner that I mentioned earlier, the FPU and '030 transform the A1200 into a beast. However, on its own, the FPU appears a bit of a wimp, shy and not keen to poke its head out its shell. That or maybe it was lazy. Whatever the reason, I wasn't impressed.

Speed

The real reason lies not so much with the fact that it was an 881 maths co-processor, which is relatively slow, as with the limited use of FPUs. Tests from Sysinfo revealed the board accelerating the A1200 to an average of double the speed. Noticable speed difference is mainly due to the FastRAM though.

The problem is that only programs designed to use an FPU will take advantage of it, which means that AD Pro or maths intensive programs like databases will speed up. However, nothing else will be affected - WPs, sound packages, etc all run as normal. A board with a faster processor on the other hand will accelerate every operation. The '030 board, for instance, was an average of five times faster than a standard A1200. In reality, an accelerator is a better and more useful addition than an FPU, but costs more obviously.

As the diagnostic shows, the A1200 does a standard 1.33 Mips (millions of instructions per second). This board speeds up to a healthy 2.94, but pales against the 6.79 of the '030 board.

Ignoring tests and timing how it performed in practice revealed that the FPU board built an image in 86 seconds, a lot slower than the '030 which did the same in only 55 seconds. A simple experiment with an uncomp-licated task that showed the difference quite easily. On more complex procedures, the time difference would leave you with plenty of leisure to put the kettle on.

Conclusion

Given the alternatives available, I cannot recommend this board very strongly. Gasteiner's boards start at a reasonable price and that or the MBX 1230 XA provide much more power. If you need RAM, then save up for one of those two. The MBX 1200z, as it is, serves little purpose. AUI

AMerge		
FEATURES	40%	
PERFORMANCE	45%	
EASE OF USE	75%	
DOCUMENTATION	75%	
VALUE FOR MONEY	20%	
Overall Rating 40%		

INFO

Price: £249.99 (68881 FPU 4 Megs RAM) Contact: Indi Direct Mail, 1 Ringway Industrial Estate, Eastern Avenue, Lichfield Staffs, WS13 7SF Tel: 0543 419999

AUI TEST DRIVE

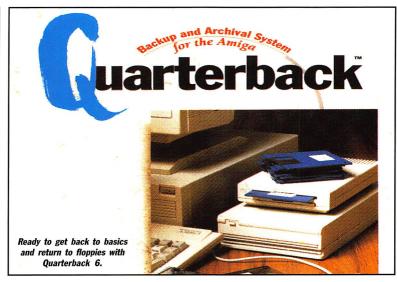
brand new hard disk; scores of megabytes of untouched virgin memory just lying there enticing you to fill them with all your most precious informational assets. No more messing around with inserting and re-inserting floppy disks now, you save everything on the hard disk and you can access it in a split second. Everything is just fine.

Then one day calamity strikes. At first the slightly raised eyebrows when the file doesn't come up from the hard disk immediately, then a puzzled frown. Suddenly the face goes red then very pale white as a creeping feeling of panic seeps through the ribcage. The unimaginable has happened, the hard disk has crashed, and you feel all the rage and woe of the chief librarian of the legendary ancient scroll library of Babylonia seeing it burnt down to the ground, only directed against yourself because you knew all along that you should have backed up your files.

Quarterback, version 6, is the latest release from New Horizons Software, (the same people who wrote the Protext word processor), which aims to take some of the tedium out of backing up hard disk files onto floppy. Archiving programs aren't very glamorous by nature, but Quarterback V6 is easy to use and practical while incorporating several sophisticated features for those who need them; all you can reasonably ask of a program like this.

The main screen provides a list of files on the hard-disk and the option buttons for back-up or restore. Files to be backed-up onto floppy can be selected by simply clicking on them and pressing the 'Back-up' button: stick in the disk, OK the next screen and after a few seconds another file is safely tucked away on a floppy.

Bench TestTesting Quarterback's speed in a mini bench-test backing up text files from hard-disk, it took just over a minute to fill a floppy disk, so it would approximately take around an hour and a half and a hundred



Keeping it safe

Peace of mind is what is offered by the latest update of Quarterback, a now almost legendary back up program, reports Michael Rumbelow.

floppies to archive a whole 80Mb hard disk on a standard A500+ with GVP hard drive.

Quarterback displays the number of floppy disks required for each archive and if more than one floppy drive is connected it will fill one floppy and move to the next drive automatically, supporting up to four drives in total. It also caters for heavy-weight back-up running into gigabytes, supporting single or multiple tapestreamers.

For newcomers to archiving and back-up, the manual suggests a couple of back-up strategies. One typical strategy is to back up the whole hard disk to floppies once a month and then back up any changed files once a week. This approach is much more efficient than backing up the whole hard disk every time and Quarterback has a special 'archive flag' feature which enables you automatically to keep track of which files have changed since the last backup.

Other features include several optional degrees of data compression from 12 to 16-bit, ARexx macros to control backup and restore functions and a new program called Schedule Pro which enables you to set events to happen on certain days and times. For instance, Schedule Pro can easily be used to execute back-up automatically for a certain time each month or week, when the time comes Schedule Pro runs the Quarterback program and starts backing-up. You still have to be there to change the disks in the floppy drive, though if you had a sufficiently large tapestreamer you wouldn't have to be there at all. Schedule Pro can control other events, too, such as birthday reminders and ARexx programs you might write, arranged just by clicking on the time and date and what you want to happen. Quarterback is a very useful program for any serious Amiga user with a hard disk and a healthy fear of hard drive crashes. It's simple and easy-to-use, keeps you well-informed as you go along and includes a comfortable but not overwhelming range of features. With Schedule Pro backing up can be almost painless and tedium free. £48.72 for this probably won't improve your love-life but it might buy you a little peace of mind. AUI

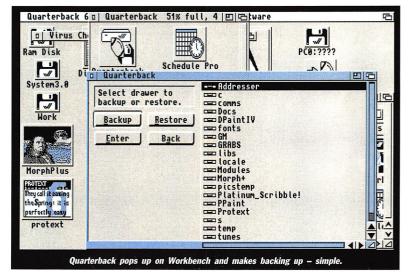
RATINGS

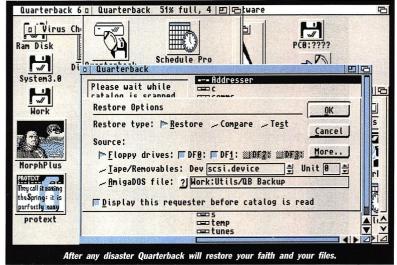
Quarterback 6 FEATURES 80% EASE OF USE 90% SPEED 72% PERFORMANCE 76% DOCUMENTATION 70% VALUE FOR MONEY 85%

Overall Rating 90%

INFO

Price: £48.72
Contact:
Meridian Software Distribution,
East House
East Road Trading Estate
London SW19 1AH
Tel: 081 543 3500







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A1200 UPGRADES

GVP SCSI/RAM BOARD

This board is user fittable via the trapdoor expansion slot of the A1200. It has slots for up to 8Mb of 32bit RAM, a maths co-pro and includes a SCSI interface as standard.

OMb / NO FPU	£179.00
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scsi cable kit	£ 59.00

GVP A1230 BOARD

Another quality trapdoor expansion for the A1200. It features a 68030 processor as standard and has slots for a maths co-pro and up to 8Mb of 32bit RAM.

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DKB RAM BOARD

This budget expansion board fits via the trapdoor. It has 2x32bit SIMM sockets for up to 8Mb of memory, a 16MHz 68881 FPU, and a battery backed clock fitted as standard.

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IDE INTERNAL HARD DRIVE KITS

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AUI TEST **D**RIVE

ore and more people are getting interested in using their Amiga for music applications. Nowadays, thanks to General Midi (GM), you don't even have to play a musical instrument - just buy a GM compatible sound module, link it to your Amiga using a Midi interface and you'll be able to use a sequencer to play offthe-shelf Midi file songs in much

Sequencing power... Dr T's Tiger Cub may be just what you need. Paul Overaa has been test driving it.

the same way that you play prerecorded CDs and tapes. Most people, however, once they see what can be done with a sequencer linked to even a budget priced synthesizer, want to get into the act and have a go themselves. Top end Amiga sequencers, like Dr T's KCS and Blue Ribbon Soundwork's Bars & Pipes Professional, are without doubt great packages, but they are also expensive, 'memory hungry', beasts which provide far more facilities than most users need. All that many newcomers and less serious users really want is a reliable, reasonably priced, stable and easy to use product that is capable of performing the basic, ie the most commonly needed, sequencing tasks. There are a number of Amiga packages which fit the bill in this respect, but Tiger Cub is of particular interest because, like the famous KCS sequencer, it comes from the highly regarded talents of Al Hospers of Dr T's Software.

Tiger Cub comes as a three disk package. There's a program disk, a small (but useful) manual, an auxillary disk with demos, drumkit files etc. and a disk containing IFF samples along with more example songs. When the program loads the lower part of the screen shows a set of record, play, rewind and fast forward type controls. These are similar, but not identical, to those found in KCS and are used to control the recording and playing operations of Tiger Cub.

As you might guess, they function in much the same way as the controls found on a conventional tape recorder. In addition, there are gadgets for things like quantization and tempo setting, time and bar/beat position indica-



tors and so on. Cue buttons are also provided on the control panel and these are convenient for rerecording parts of a sequence without having to fiddle around with start/stop controls - they let you loop through a particular section of a song repeatedly. Another important gadget is the re-channelling control. This allows you to convert incoming data to another channel before storing and retransmitting, a facility which is essential for ease-of-use when using multi-timbral synthesizers.

Tiger Cub provides twelve parallel tracks for Midi data storage and the tracklist details for these are situated directly above the tape recorder style control panel. There are the usual types of options for naming, soloing and muting tracks, and recording itself is dead easy - you just hit the record button and start playing. Unless otherwise directed Tiger Cub will record incoming Midi data on the next available track.

Editing

Tiger Cub's graphic editor works on a single track at a time. The

Tiger Cub's title page.



The main tape control and tracklist display.

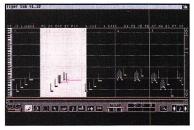
area at the bottom of the edit screen provides gadgets for inserting, copying and moving notes, changing display magnification and selecting various other editing options (there are also some scroll bars for moving around in the sequence). Immediately above this a controller window is available for editing continuous controllers and things like pitchbend and aftertouch. The track window itself sits in the top area of the display and provides details of the notes stored in the track.

Facilities

Tiger Cub provides all the normal types of sequence edit facilities. There are cut/copy/paste options, groups of notes can be selected and

moved around, new notes drawn in, and so on. Notes are displayed in Tiger Cub as horizontal bars where the horizontal length of a bar indicates the duration of that note. Notes also have stems and here the height of the stem shows the note on velocity (ie it shows how 'hard' the note was struck). Both of these aspects can be edited individually using the mouse and ranges can be marked out and transposed, velocity edited and even time reversed.

Controller events, incidentally, are shown as vertical lines with the height of the line representing the value of the controller at that point. The editor allows you to both edit values and sketch in curve values freehand using the mouse. As well as the now standard fixed note length quantization options variable 'swing' settings are provided and the quantization effects can be made relative to the first selected note of a sequence.



Tiger Cub's graphic editing in action.

Another useful extra is a Split Selected option which lets you copy or split selected events to another track. Like many other sequencers, Tiger Cub also provides a separate conductor track for holding tempo and time signature information and this is also accessed from the graphic editor.

The editing facilities have been well designed and include

AUI TEST DRIVE



Up to 16 IFF samples can be loaded into Tiger Cub.

some thoughtful touches. Controller windows, for example, have a

strip on the left hand side and a

single click in this area will cause

that controller value to be trans-

mitted. Holding down the

<Control> key whilst right clicking

in the same area displays the value

of that controller prior to the begin-

ning of the sequence area currently

displayed (this helps you to create

smooth controller value changes

over areas of a sequence that are

is part of the main tape-recorder

screen, does incidentally provide a

quick and easy way of bringing up the graphic editor display. Just

hold the shift key whilst left clicking on a track and bingo - you're

into the track editor for that track.

Another of Tiger Cub's useful fea-

tures is that it can keep track of

the names of the voices of your

synthesizers and the drum sounds

in your drum machine (or synthe-

Options

A whole range of menu options are

provided but one, the Utility menu

deserves a special mention because

it provides access to Tiger Cub's

environment window. This is used

for specifying various default

sequencer options (metronome

It can actually be

used for playing

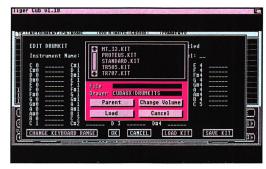
songs without any

Midi equipment

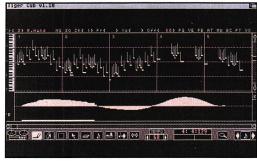
sizer drum channel).

The trackline data, which

too large to display all at once).



A range of drum kit assignments are provided.



Controller curves can be sketched in using the mouse.

File and Sample

Formats

Tiger Cub normally stores sequences in its own 'CUB' format but there are also those all important Midi file load and save facilities which enable sequences to be imported from and exported to, other sequencers. Sequences can also be loaded and saved using the Dr T 'ALL' format which gives Tiger Cub direct compatibility with Dr T's KCS sequencer.

I'm not really sure why ALL file support is provided since both packages support Midi file transfer anyway but it possibly stems from early KCS days. If my memory serves me rightly, there was a time when KCS did not support Midi

MPE and QuickScore

MPE, which stands for Multiple Programming Environment, is a Dr T scheme which allows various Dr T music programs to 'talk' to each other. It gets a mention because, in addition to the main Tiger Cub program, another module called QuickScore is provided. This uses MPE to read and convert the data held in the Tiger Cub sequencer track so that it can be displayed using conventional musical notation. QuickScore is actually a simplified version of the heavyweight Dr T Copyist scoring program.

QuickScore is certainly a clever piece of software, but it does

> nevertheless only allow you to view and print the data held in Tiger Cub. To make any changes to the track data you have to return to Tiger Cub's graphic editor. But some simple display 'massaging' operations (such as stem joining, Clef specification, tysyncopated notes over a beat and so on) are available

and the results obtainable from QuickScore are very impressive. Conventional score printing is not a facility you would normally expect to find on an entry-level sequencer so this is a big plus for Tiger Cub.



Tiger Cub's quantization functions are simple but effective.

files. SMUS files can also be loaded into Tiger Cub but sequences cannot be saved in this format.

Although Tiger Cub is primarily a Midi sequencer it can use IFF 8SVX sound samples in conjunction with, or instead of, Midi. This means it can actually be used for playing songs without any Midi equipment at all. Memory permitting, up to 16 different samples can be loaded at once and loading sound samples and assigning them to particular channels is perfectly straightforward. Loading a Midi file sequence for example and then assigning the various Midi channels being used to a set of internally loaded sampled sounds, takes only a few seconds.

Conclusion

Tiger Cub is a capable little sequencer that has rock solid timing and will run on any Amiga that has Workbench 1.3 or higher and 1 Meg or more of memory. As you might expect, for Midi, Tiger Cub has plenty of limitations relative to its 'big brother' the KCS sequencer, but the two sequencers are not meant to be in competition

with each other and the price difference alone tells you that.

Because the graphic editor allows you to enter note data directly it is feasible to use Tiger Cub without any Midi equipment at all. You just create sequences by entering notes using the editor and play them back using internal sounds. For users who really just want to do a little musical experimenting this is probably fine but I wouldn't actually recommend this type of use creating songs like this is a longwinded way of doing things even if you just want to experiment. Tiger Cub is worthy of, and capable of, much more and a second hand budget Midi synth, which would allow the sequencer to be used as a true Midi sequencer, would make the world of difference.

Whichever path you chose one thing is certain - Tiger Cub makes an ideal package for the newcomer or anyone else who wants to develop their musical interests but does not need the power, nor want the expense, of a heavyweight product like Dr T's KCS.

But for the musically more ambitious there is a special offer to upgrade from the Tiger Cub on the CoverDisk to KCS. Certainly worth considering. AUI

RATINGS

Dr T's Tiger (Club
FEATURES	85%
DOCUMENTATION	85%
EASE OF USE	95%
VALUE FOR MONEY	95%
Owner II Deline	000/

Overall Rating 90% INFO

Price: £59.95

Contact: Key Audio Systems Ltd Unit D, Rob John's Road Chelmsford CM1 3AG Tel: 0245 344001

at all. count-in values, transmission of Midi clocks and so on) and it includes a 'Play when Selecting'

switch that causes Tiger Cub to play notes as they are selected, drawn or pasted into a sequence.



KCS (Keyboard Controlled Sequencer) version 3.5 with level II is the most powerful MIDI sequencing program available for the Amiga.

TIGER GRAPHIC EDITING

- Full realtime piano-roll graphic editing.
- Graphically draw and edit all MIDI data including pitch-bend, controllers, volume, tempo, and more as the music plays.
- Cut, copy, paste, and move functions are easy using tool icons and range high-light editing.
- Velocity Stem note display makes editing note velocities intuitive and easy.
- Step-time entry.
- Edit non-contiguous events, ranges, groups of pitches, etc.
- Zoom in and out.
- Transpose duration and pitch, time reverse, quantize, and invert.
- Range highlight editing.
- Non-contiguous note selection.
- Graphic tempo and time signature editing.

QUICKSCORE NOTE PRINTING

- Transcribe and prints standard musical notation in either single staves or full scores. Up to 16 stave capability.
- Supports most standard printers through Amiga Preferences.
- Integrates directly with KCS through our exclusive Multi Program Environment for data-sharing and task switching.

SYSTEM REQUIREMENTS

Amiga 500/1000/2000/2500/3000 with 1 meg of memory, 2 meg minimum memory required for multiple MPE programs in memory simultaneously. Quickscore, and Tiger do not run standalone! Two floppy drives, hard disk, and MIDI interface recommended, Workbench 1.3 and 2.0 compatible.

TAPE RECORDER INTERFACE

- Intuition based, with pull down menus and full graphic interface.
- Fully multitasking.
- Easy tape-deck style controls wih fast forward, rewind, punch in/out, tempo controller, mute solo, controller and aftertouch filters, realtime quantize, drum-machine style loop record, and rechannelize.
- IFF samples play.
- SMPTE sync via MIDI Song Position Pointer or optional Phantom synchronizer.
- Exclusive Multi Program
 Environment for realtime data exchange.
- 384 PPQ variable resolution.
- 48 Tracks, 126 sequences, 16 Songs.
- MIDI file support.
- SYSEX record.

AUTOMIX MIDI MIXER

- Two 16-channel banks of graphic MIDI sliders.
- Realtime display and generation of any MIDI controller or program change.
- VU meters to show MIDI activity.
- Output mixes directly to KCS or to MIDI.
- Send snapshots of MIDI data.
- Runs as stand-alone MIDI monitor or integrated in the MPE.

TIGER TO SERVICE OF THE CUID O

Dr. T's

TIGER Cub is a twelve-track sequenceer which combines graphic editing and scoring, with a highly intuitive tape-deck interface.

SPECIAL FEATURES

- Twelve tracks plus conductor track
- Graphic editing of notes, tempo, time signature, and all MIDI controllers
- Real-time and step-time recording
- Full MIDI file support
- Timing resolution up to 384
 PPQN
- Configurable instrument and drum kit lists
- Supports internal sounds on all machines, including standard Amiga IFF samples
- Prints standard musical notation on most 9 and 24 pin printers as well as HP LaserJet and DeskJet. Others through Amiga Preferences

SYSTEM REQUIREMENTS

Amiga - 500/1000/2000/2500/3000,
 Workbench 1.3 or 2.0 required,
 1 meg memory, MIDI recommended but not required.



The

Phantom

The MIDI & SMPTE Interface for Amiga 500/2000/3000

Syncronization for video and audio is easy!

If you produce music in a professional environment, forget about separate sync boxes and software kludges such as MIDI Time Code. The Phantom provides direct, bit-accurate SMPTE synchronization to our KCS MIDI sequencer and other compatible programs. The Phantom acts as a standard Amiga MIDI interface and a SMPTE timecode reader/writer. It just couldn't be easier to synchronize your music to video or audio tape!



Futher information and details on how to order Call: 0245 344001

Copyist DTP

The Copyist is the publishing-quality score-editing, transcription, and printing program of choice for musicians. Copyist supports the Intuition interface using both the mouse and the computer keyboard for fast, flaxible input. Notes, text, symbols and lines can all be placed wherever you desire in a page.

SPECIAL FEATURES

- Contains all standard features
- User definable symbol editor; Part generator, select staves and transpositions
- Converts scores to sequencer formats or MIDI files.
- Score length is 100 pages
- Printers: all printers supported by Amiga preferences;
 HP Laserjet Plus, and Postscript.
- Postscript music fonts included.
- File conversion to EPS and IFF.

SYSTEM REQUIREMENTS

Amiga 500/1000/2000/2500/3000 computer with 1 meg; 1 floppy and 1 hard disk. DTP version requires hard disk.



AUI EDUTAINMENT

Martin Witton returns contentedly to the fashionable past, but fears for the future effects of a literally mindblowing game.

DINOSAURS

10 OUT OF 10 SOFTWARE

his program has to be the wackiest way to find out everything you never realised you wanted to know about the great beasts. Dinosaurs seems to have have gained in popularity the last 10 years or so and that was before Jurassic Park! So the educationalists have cashed in on the craze and it is enduring somewhat longer than Turtles, GhostBusters and Cabbage Patch kids. 65 million years longer in fact. (And that is 64 million years longer than mankind.)

So there is a wealth of associated learning materials to use for teaching the unsuspecting smaller person (provided you hide the box) such as geology, history, anatomy, general

knowledge and even spelling. Useful words such as paleontologists (fossil scientists) crop up, not to mention Deinonychosauria (dinosaurs with a big toe claw) or Ornithomimosauria (dinosaurs resembling birds). Funny how children can grasp the tricky dinosaur names, but can't spell other easier words. Everyday words can be spellchecked, but how many word-processors include dinosaurian terms in their spell check lists?

Now you all knew that dinosaurs could be split into 2 main types, Ornithischian and Saurischian, didn't you? No? Well, try asking a smart kid or take a sneaky go on the general knowledge game in this package and you will have to learn to progress.

Watch out for Tyrannosaurus Rex (we've all heard of him thanks to the 70's pop group!). In this program he has huge lethal jaws which you use to bite - yes, I mean bite - the correct answers.

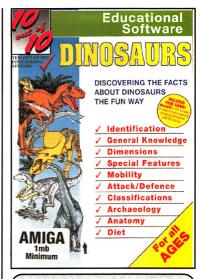
You will soon become an expert on clawprints too with Tracker - where you have to match those appearing on the stepping stones with the correct dinosaur.

Spare Ribs tests your speed in preventing the beasts from reaching the ribs - or is it the Megalosaurus haunting the screen in a search for that lost thigh found in 1667?

Many of the old favourites strategems from 10 out of 10's educational games are included, albeit heavily disguised, such as an adaptation of pairs, matching and memory testing. But then, as the dinos said for over 150 million years, if it works don't fix it.

75 pre-historic points out of 100 for these 6 games. *AUI*

°75%



INFO

Price: £25.95 Contact: Ten out of Ten Education Systems 1 Percy Street Sheffield S3 8AU Tel: 0742 780370.

. . . AND NOW FOR SOMETHING COMPLETELY DIFFERENT . .

rug prevention theory is rightly based on catching children at an impressionable age. With this in mind, the Health Wise team have developed a program on a 'harm reduction' basis.

'Wrecked' fires up pages of information on 12 drugs. The Stash and Take options within the game mimic the effects the drugs create in real life. If the drugs are taken one after the other or repeatedly you will get complex and somewhat unpredictable outcomes on the screen. The grayout is withdrawal but you can get the shakes and/or end spewing up. The most dramatic screen effects are from Heroin, Crack, Ecstasy, LSD, Mushrooms and Alcohol.

(Interestingly, the new 'housewives' favourite Prozac is not included as it is still billed as a

is still billed as a right message for young people.

wonder drug for psychosomatic disorders, but no doubt in time it will be revealed to have damaging effects. It might have been useful to include in "Wrecked" common antidepressants/ tranquillisers as these are still high up on the addiction agenda). There are five levels in the game, each with its own combination of hazards to overcome, such as hidden dangers and nasties trying to kill you. Entry to the next level can only be made when the preceding level is completed.

aim is to humour curate in minimise of the law that the course in the game, each with its own combination of hazards to overcome, such as hidden dangers and nasties trying to kill you. Entry to the preceding level is completed.

Jump around and take lots of drugs - not the

You take the main character

WRECKED!

HEALTH WISE

Jo through uppers and downers, by exploring the use of sedatives or stimulants or simulate hallucinogenic effects. Besides the obvious far-reaching effects of hard drugs, the more subtle effects of caffeine and tobacco are included. If Jo's health deteriorates (which it does whenever a drug is ingested or injected) he has to eat some fruit to get better.

Unfortunately in real life taking fruit is not the answer and perhaps this

approach illustrates what is wrong with the program. The sentiments of the creators of this program are undoubtedly correctand their self-professed

aim is to get the balance right between humour and providing useful and accurate information.

Certainly, health education to minimise risks together with a knowledge of the law is essential. Health Wise state that the objective is not to encourage drug use in the real world but to encourage experimentation within the game. They say that young people can easily distinguish between the make believe world of computer games and the real world all around them. To some extent this is clearly true.

But playing with health and drugs in particular could be dangerous. Even offering advice on first aid skills for dealing with a boy apparently suffering from a drugs overdose cannot be taught by technology alone. And fruit is surely not the answer.

This program has been designed for schools and youth clubs and it should indeed only be used a control-





The descriptions range from sublime drugs like caffeine to the more obvious...

led way - in conjunction with teachers or preferably experts in the drug education field. If employed as part of such a program, for example with group discussion and project work, it certainly has value and is acceptable. However, information such as that given for LSD - "LSD can change the way you feel, see, hear, taste and

smell. It can bring hallucinations. This is when you see things which are not really there. It is called an hallucinogenic drug." is factual, but I feel that for the adventurous, the way it is presented here rather than putting off, could bring the reverse effect.

"Wrecked" has aroused some considerable controversy with even MPs getting up on their hind legs and into the "I haven't seen it, but it should be banned!" mode. Unfortunately in this case they may have a point. Creating a situation, even in the fantasy world of a computer game, where impressionable and adventurous people may 'play' at mixing a cocktails of dangerous drugs and have the, in reality, terrible effects distanced and trivialised by experiencing them in a 'playful', unreal context could, I fear, prove counter-productive.

We need to take the glamour out of substance abuse, but perhaps the approach taken by this game on its own (billed as 'culturally attuned pre-

vention') may not be the best way to achieve it. **AUI** 30%

INFO

Price: £29.95 Contact: Health Wise Freepost Liverpool L1 1AB Tel: 051 709 5505

AUI USER **P**ORT

The Next Steps...

In a new series of features AUI investigates the A1200 to find out how it all works. This month we start with the hardware, put under the microscope by Patrick Howlett and follow on with a trip round the ports and what you can steer into them piloted by Jeff Walker.



Mouse

The WIMP interface means that users don't have to touch the keyboard at all, but for us keyboard bashers it plays a vital role in the use of the computer. The A1200 is equipped with Commodore's usual full size keyboard, and it's fully configurable via software. Unlike PCs, which have a CTRL-C interrupt, the A1200 only has the usual software reset using CTRL and the two Amiga keys. This sends an interrupt signal to the CPU, which is forced to reset, regardless of what the computer is doing. The CTRL, ALT, Amiga and Shift keys are special keys which generate key combination codes when used in conjunction with other keys. These codes can then be used by an application to perform special functions. Other keys such as F1-F10, ESC, DEL and HELP also rely on software for any functionality. The mouse is the usual me-

chanical type, using two rollers to detect movement in the X and Y directions. The data must of course be read in by the OS, and it is quite a complex process. Mouse movements or keyboard presses are classified as 'events' and these events generate IDCMP messages which are processed by software. We shall be looking at the OS in detail in a future article

Floppies

The internal floppy, DF0, is the default boot drive. This means that the computer will always check this drive first for a bootable disk. A bootable disk has instructions written to the first block (block 0) which are executed before anything else happens. A normal Workbench disk will have a standard DOS bootblock, whereas games in particular will have a specially written bootblock which doesn't have to conform to what AmigaDOS expects (simply because most games don't bother with the OS for disk access).

The A1200 sports an IDE interface which makes adding a hard drive easy.

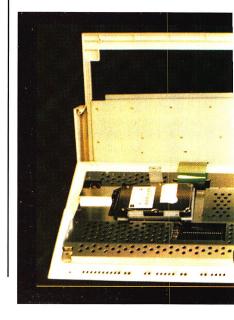
200

If an external floppy is fitted it will be the same type as the internal one and it too can be used to boot the computer.

Hard Drive

The A1200 sports an IDE interface which makes adding a hard drive easy. With Workbench installed the computer will boot from the hard drive, provided a bootable floppy is not in DF0. The only real problem with the A1200's IDE interface is power consumption. Just as an external floppy draws current from the 5v line, the IDE interface provides a 5v supply for the drive, unfortunately the current is rather low, and even worse, the current drain can have an adverse effect on other parts of the

> The hard drive fits snugly into the A1200's innards.



The A1200 brings power to the user at an affordable price.

Serial/Parallel

The A1200s serial port supports standard RS232 type communications, but there are some Amiga specific connections such as a 12v power supply for powering peripherals. Two lines provide bitstream I/O and the operation may be synchronous or asynchronous.

The parallel port provides 8 bit wide data transfer and is therefore much faster. Only asynchronous

AUI USER PORT

operation is possible but since the parallel port is used primarily for devices such as printers this is not a problem. Next are the audio out sockets, which are the standard phono type. Compared to an old A500, the signal level seems slightly higher, but it retains the 2 left and right channel configuration.

The RGB socket provides the video signal for RGB compatible monitors. This gives the highest quality display since individual signals for red green and blue are sent to the monitor. The A1200 has an internal modulator which provides a standard RF signal for TVs but the quality is not as good as RGB. All the display and sound information must be converted into RF signals, with a corresponding loss of quality.

There is also a composite output which can be used with some monitors. This is similar to an RF modulated output but does away with the sound, giving slightly higher quality than RF. A composite compatible monitor is required.

Finally there are the two expansion slots which ensure that the A1200 can grow as required. The PCMCIA slot is type 2 compatable and can accept upto 4Mb of 16bit wide memory. Several new PCMCIA devices, namely hard drives, have recently appeared and these should work fine, although it would be wise to check power requirements.

The trap door expansion is a 150 pin edge connector which provides connections for a processor and/or memory upgrade. The A1200s 68020 is restricted by its 24bit address bus to accessing 8Mb of memory via the expansion bus. If the expansion board is equipped with an ugraded CPU, such as an '030, which has a 32bit address bus then feasably upto 32Mb of RAM can be accessed. The trap door expansion provides

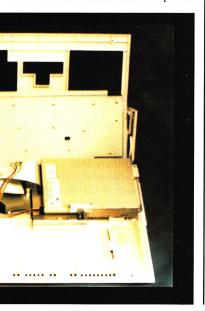
direct connections for memory and a replacement CPU but a co-processor (math or memory) has to be built into the board. There is also a connection for a real-time clock signal and some expansion boards are offering battery backed up clocks. I don't know why the A1200 doesn't have one as standard - cost maybe? It's rumoured that originally Commodore planned to ship the A1200 with 1Mb of RAM, which would then be upgraded by the addition of a 1Mb RAM module with an optional clock/calendar a la A500.

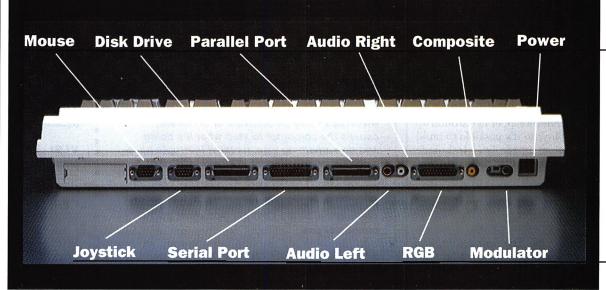
While on the subject it's worth mentioning the potential contention problems when using PCMCIA and trap door memory expansion. PCMCIA memory is mapped to the top 4Mb of the overall memory map but the trapdoor expansion can also access this top 4Mb. The CPU could get in a real twist here with very damaging results (the chips could literally blow) so be careful.

Inside

Going inside the machine we find a single motherboard which holds the guts of the machine. Surface mount technology is evident here, and this reduces the amount of space used as well as simplifying manufacture. The processor and custom chips can be clearly seen on the motherboard. Older 68000 chips were quite large but advances in VLSI technology have brought the size down considerably.

The A1200's
Ports

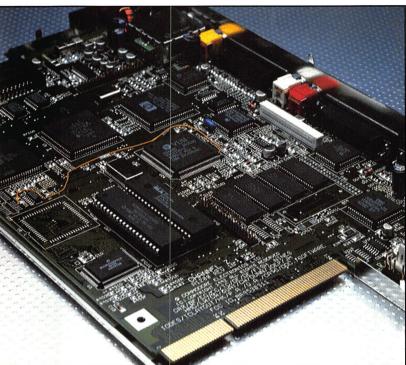




AUI USER PORT

Going inside the box
we find a single
motherboard which holds
the guts of the machine.

moved to this area when required which can leave more space for graphics, provided the processing can be done fast enough. Paula must be told where the data is for each individual sample and also told which octave, frequency and channel the sound should use.



The heart and soul of the A1200 is the surface mount motherboard.

Alice is the replacement for Agnus and provides 32bit blitter operation. The blitter is able to move large chunks of data around in memory very quickly and can also operate on the data. Filled vectors, 3d graphics and other techniques rely heavily on the blitter and its operation will be explained in more detail next month. Alice can only access data that exists in CHIP RAM.

Lisa is the display co-processor the copper - in charge of the actual screen display. Lisa has its own special set of instructions and can do things like changing the palette and enabling sprite DMA. These activities can be synchronised with the video display beam to create tricks such as graduated backgrounds and split screen effects. The copper uses what's called a copper list to build up the display, so it's possible to build up a custom copper list, a technique often used by games and demo programmers.

Paula is the only custom chip which is common to all Amigas. It provides 2 channel (left and right) 4 voice 8 octave sound. The sound chip, like the other custom chips can only access CHIP RAM but data from FAST RAM or even a hard drive can be

As well as the three custom chips there is a 4th chip called Gary. Gary is responsible for device I/O and is important for floppy and hard disk operation as well as handling things like the mouse. All the parts

of the system come together under

the control of the operating system.

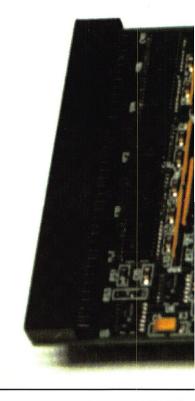
This provides a link between the

program, the CPU and the other

parts of the system. The Amigas OS is a large and complex beast but understanding it gives a valuable insight into what makes the Amiga so special so it's well worth the effort.

The OS is divided into several parts: there is the ROM kernel which holds all the essential system commands in permanent memory, and that part of the OS which is loaded into RAM. The ROM kernel can be sub-divided into complex areas such as Intuition and Exec while the RAM part of the system links to this via libraries and application specific system data.

Next month we will be exploding the system level operation of the A1200. How everything fits together, how the system works and what happens when we run a program. Don't miss it!





EASY ACCESS

Asynchronous - Input/output where the lines alternate between sending and receiving data.

Chip RAM - This area of memory is available to the custom chips as well as the CPU.

Fast RAM - This area of memory is only available to the CPU.

Interrupt - May be software or hardware, causes the computer to stop what it's doing and do something else, usually! Interupts have a certain priority and tie in closely with the overall operation of the system. A soft reset (CTRL-AMIGA-AMIGA) sends a hardware interupt to the CPU. Line(s) - Refers to a single connection, be it a CPU pin or comms port connector pin.

SMT - Surface mount technology is a development in mass production where all the

components and electrical tracks are mounted on one side of the board. Before SMT, holes were needed in the board to mount the components, with the electrical tracks on the other side.

Synchronous - Simultaneous input/output of data through the serial port for instance, i.e data can be sent while data is received. Requires dedicated input/output lines.

VLSI - Very large scale integration, this technique places a large number of electronic components onto a single chip. A higher level of integration allows for more components on the chip or a reduction in the physical size of the chip itself.

WIMP - Windows Icons Mouse Pointer, a graphical user interface (GUI) such as the Amiga's Workbench.

The CSA 12 guage makes your A1200 faster than a speeding bullet.

Making the Connection

One of the major improvements
the 1200 has over its precursors
is that it is easier to expand, and
can be expanded further more
cheaply. It is not as expandable
as the 'pizza box' Amigas, they
have more room in them after
all. However, in the trap-door
underneath the 1200, even if
there is only the one, some
incredibly powerful hardware
can be plugged into the
expansion bus.



AUI USER PORT

EASY ACCESS

Psynching in

Multiscan monitors are often called multisync monitors. The word Multisync is actually a trade name but, just as Hoover and Biro are universally used to mean vacuum cleaner and ball point pen, multisync has come to mean the same as multiscan. Hmm? You what? What does multiscan mean? Ah. Well, OK, strap your brains in. Here goes.

Computer video signals are described as having horizontal and vertical sync (or scan) rates. The vertical sync rate, expressed in hertz (Hz), is the number of times the display is refreshed every second. Television refreshes the display 25 times per second, 25Hz. Standard PAL Amiga screen modes do it 50 times second, 50Hz. NTSC screen modes (what the Americans use) do it 60 times a second, 60Hz.

The horizontal sync rate is expressed in kilohertz (kHz) and is the number of lines that can be transmitted in one second. Standard monitors (like the Commodore 1084) and television sets run at just over 15.6kHz, or about 15,600 horizontal lines transmitted per second to put it another way.

Now get your calculators out. Divide the horizontal lines per second (15,600) by the number of frames per second (50) and you get the maximum number of horizontal lines per frame (a 'frame' is a single refresh of the screen), which works out to just over 300. Some of these lines are not usable by the Amiga, others are in the overscan area.

The limit for standard screens on an Amiga is 256 lines. Even interlaced screen modes, which double the number of lines that can be displayed, only display 256 lines at a time; every 50th of a second they switch between the odd lines and the even lines of your

picture, which is why the display flickers. To get 512 flicker-free lines you need a monitor that will display double the normal horizontal sync rate — 31.25kHz.

So a multiscan or multisync monitor is a monitor that is able to run at lots of different (multi) horizontal sync (scan) rates. Ideally, for the Amiga you would want a monitor that started at 15.6kHz and went up to 34-35kHz. The old Commodore 1960 multiscan monitor fitted this bill, but most multiscan monitors, especially the better quality ones, start at 30kHz, which means they won't work in the standard 15.6kHz PAL screen modes. Because the 'DBL' screen modes -DBLPAL, DBLNTSC and so on are not exact double modes of the standard PAL and NTSC ones, running at slightly lower horizontal sync rates of 27-29Khz, a multiscan monitor that starts at 30kHz is no good for these either.

Some higher quality monitors start at (or 'sync down to') about 27kHz, which means they will work in the DBL screen modes, but not in the Super72 mode which requires a 23.2kHz horizontal sync rate. The least expensive solution if you want a high resolution flickerfree display is the Commodore 1942 monitor, which comes with a free plug adapter and will handle all the Amiga screen modes except Super72. A higher quality monitor that costs only a little more, although you may have to add the cost of the plug adapter (about £20), is the Microvitec Cub Scan, which supports all Amiga screen modes. Or for yet a few pounds more, but still under £500, there's the Microscan 4G, which syncs down to about 27kHz so will work fine in the DBL screen modes but not in the standard 15.6kHz PAL ones.

As well as the terror in the trap-door we have the slit in the side — the acronymic PCMCIA or 'smart card' port which came with the promise of great innovations but, the shame of it, has largely been ignored by hardware developers. But there are one are two bits you can slot in the slit, and we'll be looking at those in a bit. (The poetry of hi tech!).

But before we do that, let's discuss the monitor port because the 1200 was the first Amiga that could properly run a multiscan monitor without having to buy special display enhancing hardware.

Trapdoor

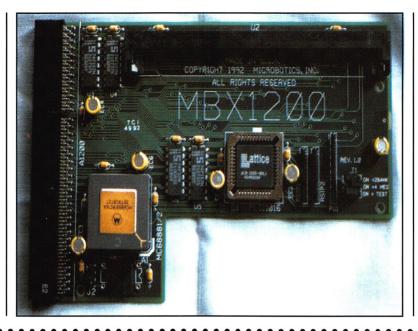
Memory first, and there are just two points I want to make. First, beware of buying a trapdoor ram card that can have only 4Mb of chips fitted. You may think you will never need more, but believe me you will. Buy one that can take up to 8Mb, even if you only afford to populate it with 4Mb of chips. Second, if you are considering buying an accelerator card, keep in mind that you only have the

AUI USER **P**ORT

drive. And that's it. We've run out of holes, and out of things to fill them with. Obviously there are add-ons you can plug into the ports of the 1200 that are not discussed here, but these are exactly the same add-ons that we looked at last month for the parallel port, serial port and so on, of any Amiga, so order the back issues of AUI now if you missed that one.

I have just a few bits of parting advice. Before splashing out on impulse, consider long and hard about what you are buying. Think about what you expect the product to do and then ask in plain English whether it can do it or not. And for heaven's sake don't believe everything I say.

All this is just my opinion. I know what I'm talking about, but just in case I don't, go read some more! The more the widget costs, the



The MBX 1200 board allows RAM expansion via

more you should ask or read other people's opinions of it. Don't form your opinion by counting how many people say something is good and how many say it is not, often the lone voice is the true guiding light.

Finally, always remember the general rule that the more a lump of hardware costs, the higher will be its quality, speed or technical specification. Be wary of inexpensive add-ons that claim to be as good as much more expensive equipment. I'm not saying you can't find bargains out there, but you do have to be aware that the law of this country says adverts only have to tell you what the advertised equipment is and what it does, not what it isn't and what it can't do. AUI

AUI RATINGS

EXTERNAL PCMCIA HARD DRIVE 3/10

Buy a big internal one first, but a PCMCIA one could be useful for transferring data from one 1200 to another.

MEMORY 10/10

The more the better. Buy, buy, buy.

ACCELERATOR 8/10

The 1200 is pretty zippy, but a 68030 accelerator will give you even more speed and a greater Ram expansion capability. If you want to use virtual memory with your hard drive, don't buy an accelerator that has the $68EC030\,\mathrm{chip}$, you need a full $68030\,\mathrm{chip}$ chip that has a memory management unit.

MATHS COPROCESSOR 5/10

Gives number-crunching programs a bit more speed, even if you are already accelerated.

MULTISCAN MONITOR 7/10

You can't do any serious work without a monitor,

PRODUCTS

but a standard 1084 or equivalent may very well be adequate for your needs.

DIGITISER/SCANNER 4/10

Only if you need to get images from the outside world into the computer.

SCSI INTERFACE 6/10

Will enable you to add up to seven extra SCSI hard drives to your 1200, or to add other SCSI devices like tapestreamers.

HARD DRIVES

Overdrive 35

Type:40Mb external PCMCIA hard

£187.50 Hobbyte 0727 856005

MEMORY

MBX 1200

Up to 8Mb trap-door expansion card, comes with clock and maths coprocessor.

From £109.99 (0Mb)

Indi 0543 419999

PC1208

Up to 8Mb trap-door expansion card, comes with clock and optional maths coprocessor.

From £69.95 (0Mb)

Power Computing 0234 843388

Memory Master 1200

Up to 9Mb trap-door expansion card,

comes with clock and optional maths coprocessor.

From £115 (1Mb)

Gasteiner 081 365 1151

Blizzard

Up to 4Mb trap-door expansion card, optional card to fit another 4Mb. £159.90 (0Mb)

Hobbyte 0727 856005

SCSI/RAM

Up to 8Mb trap-door expansion card, plus a SCSI interface, optional maths coprocessor.

£199 (0Mb)

Silica Systems 081 309 1111

ACCELERATORS

M1230XA

Trap-door accelerator card, 40MHz 68EC030 or 50MHz 68030, maths coprocessor, can take up to 128Mb of ram.

From £239.99 Indi 0543 419999

GVP A1230

Trap-door accelerator card, 40MHz 68EC030, can take maths coprocessor and extra ram.

From £249

Silica Systems 081 309 1111

CSA 12-Gauge

Trap-door accelerator card, 50MHz 68030, maths coprocessor, 4Mb ram, SCSI interface.

£799

Omega Projects 0942 682203

MONITORS

Commodore 1942 **Dual-sync monitor**

Silica Systems 081 309 1111

Microvitec Cub Scan Multi-sync monitor £429.99 Brian Fowler Computers 0392 499755

MISCELLANEOUS

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24-bit video digitiser, full AGA support, fits to the parallel port.

Rombo Productions 0506 414631

ColorBurst

18-bit colour hand scanner, full AGA support, fits to the parallel port. £399

Golden Image (UK) Ltd 081 365 1102

VideoMaster

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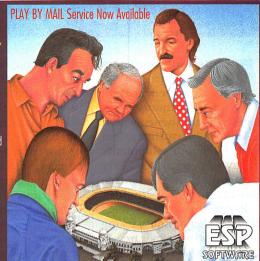
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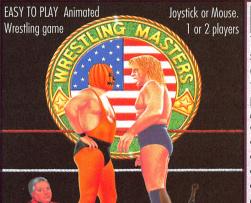
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Players: Real life statistics reflecting the start of 93/94 season with real positions, height, age. Live transfer market, Contract & wage negotiations, Preferred foot (left/right/both), Loans, Injuries, Training, Special talents, Trainees, Goalkeepers (separate skill categories), Defenders, Midfielders, Attackers & Utility, Retirements, Foreign transfers, Unhappy players, Top 10 Hot shots.

Team: Training, Tactics (15 different styles), Aggression, Formation allows specific player field settings (Left winger, Sweeper etc.). Club: Sponsorship, Ground improvements, View opponent, Finances The Match: Real time scoreboard reporting goals & injuries yellow/red cards, Sound effects, Interventions permitted at any time to change tactics, formations and make subs. Physical graphical penalty participation (optional). Over 80 different referees.

Other: Fast load/save, Printer access, 20 Options to set various game preferences, Instruction book, Easy to play, Technical support. Plus: Over 100 other meticulous refinements impossible to list here. Editor: Allows you to amend various items in saved games. £12 Extra Scottish: Dedicated version details available upon request.





RICKET

This is a purely managerial cricket manager game that concentrates on strategy and includes plenty of relevant statistics. The game has been designed and developed by a true fan of the sport. It replicates everything significant events (Fours, Umpire that a real manager has to contend with and it's a totally unique production that anyone with an interest in Cricket should experience. A summary of the main features is shown below:-

- AXA EQUITY & LAW 18 league county teams, 50 overs per game.
- 4 Cup competitions including Benson & Hedges, Nat West.
- 20 different match umpires with accurate names and strictness.
- Accurate player details Surname, height and age.
- 27 different player attributes. Most skills have a direct impact on the effectiveness of each individuals actions during a simulated match.
- Easy player selection. All game text is clearly presented.
- Batting and bowling averages. Top batting and bowling tables.
- 3 Different training intensities to boost batting, bowling or fielding. Weather, pitch and light often make an impact on ground condition.
- 3 Batting/Bowling classifications (Normal, Attack and Defend). Choice of 15 different field placings. Full scorecard results with best batting and bowling figures.
 - Other staff (Physio, Groundkeeper, Scout) can be hired and fired.

permitted at any time to change batting tactics or fielding placings.

Annual league fixtures listing. Current week and last league results.

** FOUR **

- View current cup competition draws and historic records.
- Real time transfer market. Player contract and wage negotiations.
- · Sponsors, Printer access, Finances, Poor ground fines, Manager rating.
- 15 Options to alter game preferences, Load/Save game.
- Instruction book with plenty of examples.

Full match highlights let you

full graphics and/or realistic

sampled sound effects for

watch the action ball by ball with

decisions, etc.). Interventions are

• Plus many more fine details that we are unable to list here.

This game has been designed to be as close to real racing as possible. Five years of development by a clever racing expert has led to the second revision of this Flat Horse Racing Simulation.

Up to 4 players can participate as Owner Trainers with the primary objective of becoming the top rated trainer, in respect of prize money won, at the end of each racing season (March to November). There are up to 35 other intelligently controlled computer trainers to compete against and compare your personal performance.

To achieve this aim you must discover a potential champion and train them so that they become capable of competing well and winning any of the 47 big prize money races (Handicap and Group), eq. The Derby To give you an idea of the tools provided in this game to assist you reaching your objective we have listed the main features below:-

- 250 horses each with over 60 independent variables.
- 26 different race courses (2 all weather), real life characteristics mirroring the diversity of racecourses in the UK (descriptions provided). Version 1 is available upon request (Simple training & betting) @ £15.



- 20 Jockeys who vary in ability and booking fees, Orders & Feedback.
- Formbook and Win Summary Cards cover the previous 200 races.
- Animated race display or just the result. View Declaration List for races.
- Very informative report by Head stable lad. Tipsters. Bookmakers.
- Racecards similar to racing press. Real life. Handicaps & Race Types.
- Viruses, Injuries & Vets. Load/Save game. Many other items included.

ORACLE

tition 1991 : Organised by Racecall, regulated by the Tote, this program achieved oint second. This led to a serious approach from a well known national book maker. Rejected in favour of supporting the public. Vinnings Statistics: 104 wins out of 166, as from 2/6 to 1/9/93. Formula: This program tells you exactly what to do. You are NOT permitted to amend our system unlike so many other similar programs. How confident can you be in something that invites amendments! Research & Development: Three years full time race analysis and experimentation to refine and test the prediction system. nside Knowledge: Plenty of unique hints from contacts in the know. Jser Friendly: No racing knowledge required, easy to use, tutorial book estricted Sales: As soon as our programs predictions have a prolific mpact on the betting odds we will stop accepting new buyers. onthly Updates: Highly recommended option. If any update fails to break even we'll send the next one free of charge. From £25. rice Increase: Highly likely. Buy now before success forces increase

World Cup Cricket Masters

A fantastic graphical and/or tactical representation of Cricket that has been completely written by a traditional fan. You can physically participate with batting and/or bowling or leave it to the computer to automatically handle. See full feature list below:-

- 1 Day limited overs or test.
- White or coloured clothing.
- Three Cricket grounds.
- Load/Save game. Skill levels.
- Computer/Human players. ANIMATED ACTION
- Sound Commentary
- Umpire signals.
- All the strokes cut, pull, drive, etc.
- Appeals, dropped catches, run outs.
 Bowler types include seam,
- Bouncers, wides and no balls.

- Scorecard & bowling analysis.
- Weather and ground reports
- Wagon Wheel
- Manhattan Chart. PLAYER VARIETY
- Rated on 8 adjustable factors.
 Joystick control of batsman's
- Range of batting types.
- · Editor to amend game stats.
- swing, change and both types of Rain, bad light, cloud cover, spin with 8 speed levels.

FRIENDLY CONTROLS

- Icon driven with point & click.
- Large 3D scrolling screen covering the entire playing area.
- Mouse controls bowler's line, length, direction field settings.
- Left and right handed players. attack level, strokes and running between wickets. VARIABLE CONDITIONS
 - Surface and pace of pitch
 - temperature and humidity.

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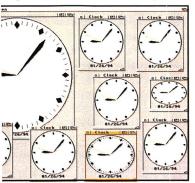
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AUI USER **P**ORT

ultitaskingcomputers are nothing new, they've been around for a great many years. Some of the ideas incorporated in the Amiga's operating system have come from developments that first appeared on early mainframe machines and so this is where the story needs to start.

It was around thirty years ago that the idea of multitasking first started getting exposure. As early mainframe machines entered the commercial marketplace it became obvious that such computers being used to perform just a single job at any one time was wasteful of the then extremely expensive processor time. Many of the I/O (input/output) jobs that early computers had to deal with, were slow relative to the speed of the processors themselves. This meant that during the time the computers were reading punched cards, or printing results, the processor itself actually needed to do surprisingly little work. It might send some characters to the printer, and then just sit there waiting until the printer indicated that it was ready for further characters. It would then send more characters and wait again, and so on.

The processors at the heart of these extremely expensive pieces of hardware spent much of their time doing nothing. What were needed, of course, were operating systems that allowed the processor to perform other tasks during those



You want to run lots of clock programs? With Amiga multitasking it's easy.

waiting times and it was from these requirements the ideas of multitasking; of running more than one program at time, were born.

Switching

How does a multitasking computer run more than one program or task at a time? Quite simply - it doesn't. What it can do however is appear to do several things simultaneously

by switching between the various jobs giving each a chance to run in turn. Do that fast enough and the user is given the impression that all the programs are running together. Even in the early data processing days, mainframe operating systems could read punched cards and print out data at the same time. From these simple beginnings came also the idea of 'timesharing' where many users, each with his or her own terminal, was able to interact with a central processor in a way that made them feel as if they had the whole machine to themselves.

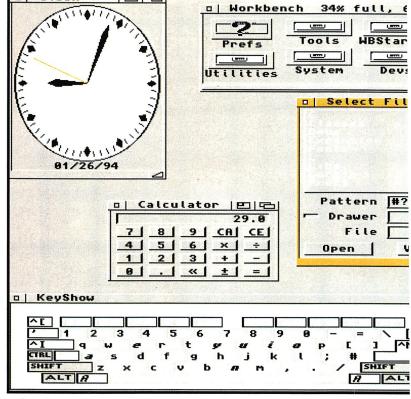
What was happening beneath the surface was that the computer's processor was rapidly switching between each user using those I/O gaps that on earlier machines had left the processor sitting idle. Given the hardware available in those days it is surprising how much important groundwork was covered by computer scientists of multitasking ideas and approaches.

We've come a very long way since those early times and there are now large highly sophisticated multitasking operating systems available, such as UNIX, which have been designed to cater for the needs of multi-user system. The Amiga's operating system however is considerably smaller, and rather less esoteric, than UNIX and was designed with single-user machines in mind. Its roots, incidentally, lie in an operating system called Tripos.

Powerful

Now you might be wondering why, if the ideas of multitasking have been around for such a long time, it has taken so long for a multitasking machine like the Amiga to appear. After all we had personal computers around long before the Amiga arrived. Some multitasking versions of operating systems like CM/ P(a type of early MS/DOS operating system) did become available on 8-bit machines but, though interesting from an academic viewpoint, they didn't catch on for a very good reason. The processors with which such systems were designed to run were just not fast enough. So much time was taken up by the job of task switching that there was little processor time left to do anything else!

When the more powerful



The Amiga's operating system handles the job of sharing out the processor time between different

Multitask

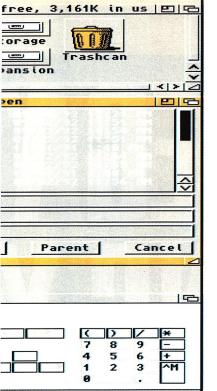
Paul Overaa provides a beginner's eye view of the Amiga's multitasking skills and how they work.

16-bit processors, like the Motorola 68000 used in the Amiga, came along things changed because chips like the 68000 are easily fast enough to carry out the task-switching operations unaided. For the Amiga it was even better because of the underlying hardware design. Some clever custom chips had been designed that utilised Direct Memory Access (DMA) which allowed data to be read from, or written to, memory locations without the 68000 processor being directly involved.

Many operations involving graphics, sound, disk I/O and so on are done virtually independently of the 68000 on the Amiga and, freed from these jobs, the 68000 ends up with quite reasonable amounts of time available for running programs, task switching, and doing all of the other multitasking 'housekeeping' jobs that are needed. The result? Multitasking on the Amiga doesn't just only work - it works exceedingly well.

Under The Surface

The only way that the Amiga can multitask is for the processor time to be physically shared among the various programs wishing to run. Each program in turn has to be given a bit of time to run and, when this time slot is up, the program has to be suspended while another program is activated. The process of deciding which task should be running, and then kicking it off (getting it running), is called taskscheduling and the software which



<u>Amiga</u>

performs this task switching magic is called Exec (an abbreviation for 'Multitasking Executive').

As far as Exec is concerned Amiga programs can be in one of just three states: running, ready to run (if given the chance by Exec) or waiting (also referred to as sleeping). A typical example of this last situation would be a program which is waiting for a user to hit a gadget before doing anything - such programs can call a Wait() function

which results in program execution being suspended until a gadget is selected by the user.

Internally all this is managed by two task lists - a 'ready' list ordered on task priority, and a waiting list (with no particular order).

As soon as a sleeping task is in a position to run, Exec will make sure it gets moved from the waiting list to the ready list. Managing this task jiggery pokery, as you might imagine, is not a trivial job but the beauty of Exec is that the multitasking is effectively transparent so programs, and programmers, rarely need to worry about the underlying complexity.

Priority

What other criteria does Exec use when deciding which programs should run? Each task has an associated 'priority value' and running tasks remain running until one of three things occur: a higher priority task becomes ready to run, the program currently running enters the waiting state we've just discussed or the currently running task exceeds the pre-set time period (called a quantum) which Exec allots to running tasks. Tasks of equal priority are given equal shares of the processor's time and what Exec does in this case is cycle around that equal priority portion of the 'ready' list 'time-slicing' the processors time so that each task is given its turn (a so-called 'round robin' scheme).

Not all multitasking schemes work like this. With some operating systems a task, once it has gained control of the processor, will keep running until it either voluntarily terminates or has to perform some kind of I/O operation. If a higher priority task comes along and is ready to run it just gets

AUI USER **P**ORT

placed in the 'ready' queue (although admittedly at the front).

Some systems with 'Shortest Job First' multitasking arrangements are set up like this and because the system cannot steal the processor back whenever it wants, such schemes are called non-preemptive scheduling. With the Amiga a task does not have this kind of say in whether it runs or not. In other words Exec uses preemptive task-scheduling.

Task Control

One of Exec's most important jobs then is to organise pre-emptive task scheduling and it does this by maintaining an internal block of data known as a task control block for each running program. Each program also has its own stack area, a portion of memory which it uses to store data on a 'last-in first-out' basis. Whenever the execution of a program is temporarily suspended by Exec the contents of the 68000 registers are placed onto this stack area whilst another program runs. When that first program is again given the chance to run Exec retrieves the information needed to re-instate the 68000 and lets the program continue running where it left off. The result? Each program thinks that it has a 'virtual machine' all to itself!

Barrier

The device barrier allows programs to ask and be informed about what is and what is not available for use at any given time. It is up to the program themselves however to take appropriate actions. If, for instance, during the time the serial device was being exclusively used by one program another program tried to gain access to the serial

device to read and write totally unrelated data, the 'open serial device' request would fail. This is the Amiga system's way of telling the second program that the underlying hardware was not available for use.

Crashing

Most computers can attempt multitasking but to be completely safe such systems need the support of hardware features like memory protection which the Amiga unfortunately does not provide. This is why a badly programmed piece of Amiga software can crash the machine bringing down not only itself but any other programs that were running.

This is the one, and only, area where PC hardware scores over the Amiga because all Intel chips since the 286 have supported protected mode programming although unfortunately MS-DOS, the underlying operating system, was not programmed with multitasking in mind. With the Intel 386 came a 'virtual 86' mode which allowed a program to run as it would on a conventional 8086 chip, but still enjoy the facilities of protected mode. This incidentally is why Microsoft Windows 386 is able to run multiple MS-DOS programs each program thinks it's running in a standard 8086 machine.

Despite the fact that modern PC machines do support task swapping its development has been a bolt on affair and the result is that multitasking on the PC is nowhere near as transparent or natural as that on the Amiga. Because of these and other limitations, IBM and Microsoft created a new operating system OS/2 but this has had a far from smooth ride both from the developers and users (and in size it's already a memory hungry monster).

Make no mistake the Amiga could certainly do with hardware memory protection and this may well come in future. For the moment however Amiga programmers have had to learn how to follow rules which allow programs to co-exist without this extra protection. Despite the fact that there were hiccups in the early days, those rules are now well established and well understood. The result is that the Amiga stands supreme in the world of affordable single-user multitasking machines, and its likely to stay that way for a very long time. **AUI**

Contention

There is rather more to multi-tasking than just swapping tasks because no matter how many programs run in memory all must share the same, limited number, of system resources. Imagine the chaos which would ensue if, for example, one program suddenly decided it wanted to take over control of the serial port hardware while another program was using it. These types of 'contention' issues, where two or more programs are trying to access or use the same system re-

sources, cannot be solved at the hardware level and so a software solution has been devised.

The Amiga's O/S uses software entities, called 'devices', to provide an intelligent barrier between the real Amiga hardware and the programs. This arrangement leads to a situation that, providing all programs that communicate with the Amiga's hardware do so using system standardised methods, all the potential contention issues can be solved.

If, for example, a program needs to gain access to the serial port it must do so by trying to 'open' the serial device. Providing the device is successfully opened, the program then writes or reads its serial data using the serial device and not the underlying hardware. Sometimes, of course, a piece of hardware will already be in use, and in these cases another program will not always be able to open the corresponding device.

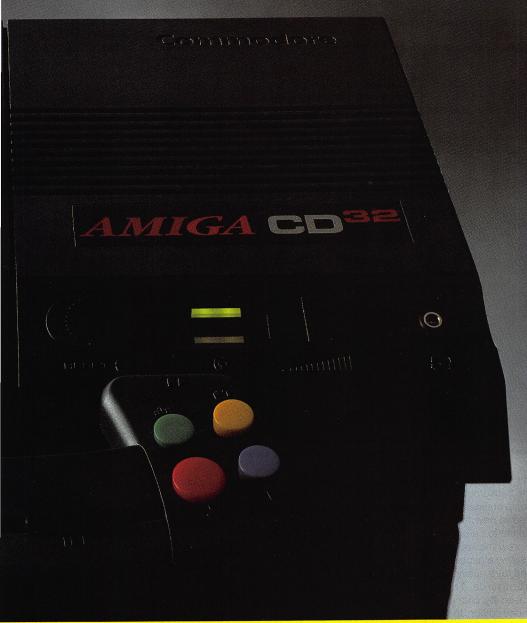
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AUI USER **P**ORT

n the Video Column we often write about new equipment, programs and technical theory, but we don't often get the opportunity to report on actual video graphics in a real working situation.

This month we can report on a film director who's winning awards with the help of Amiga graphics. Geoff Halmer is a twenty one year old amateur film-maker from Basingstoke, and already he has won a number of awards for the films he has made. Geoff has been making videos since the age of NINE, so he's pretty experienced now and last year he won the 'Bronze Seal' and 'Best Action Movie of the Year' awards in the annual I.A.C. (Institute of Amateur Cinematographers) Movie Competition, for his fifty minute epic, "Cold Summer".

As well as Amiga-generated titles, this video had a sequence showing a futuristic

city being blown up (produced on the Amiga) genlocked over a videoed background. As effective as this was, Geoff is hoping for even bigger things from the movie he has just completed and which will be entered in the 1994 IAC competition. This is entitled "Hi Honey" and it features far more challenging video graphics, which were

video effects mentioned above) is Jessops' new course "Productions with Amiga". On this one day course you will learn how to use the Amiga for video post-production work. Additionally - the interfacing of the Amiga into a current video system, its compatibility with other equipment, the latest video software and titling techniques are all covered. These are one day courses. limited to twelve people and cost £50. Courses are virtually one every month. Other day courses offered by Jessops are "Understanding Camcorders and Accessories" for just £35 and "Understanding Editing" for £50. For full de-

tails contact your local Jessops or phone Paul Roper, the course tutor, on 0533 320033.

Digital **Broad**caster 32

If you have nearly £2,000 to

spend and you want to do component non-linear editing to broadcast standard, with your Amiga, look no further than the Digital Broadcaster 32. Fitting into the Zorro slot, this little wonder board will enable you to on-line edit in either PAL or NTSC the system

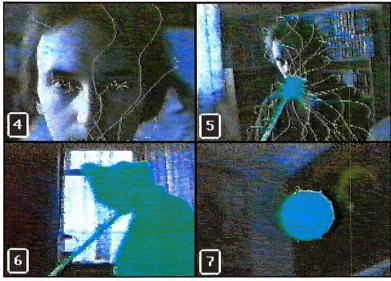
sometimes known as "never twice

same colour!). It has YC and SVHS

Alan Puzey keeps you up to date on the the video scene.

these frames was then worked on using DPaint. Firstly a line was drawn around parts of the scene such as the actor and the video screen which were integral to the special effect; then all the colours in the picture, except for and shows just what is possible with the Amiga and your imagination. Geoff Halmer's work would be a credit to any Amiga artist - though he is first and foremost a film-maker. I wish Geoff and his colleagues in "Fraught Produc-

SEVEN FRAMES SHOWING THE SEQUENCE WHERE GEOFF HAS USED AMIGA GRAPHICS GENLOCKED OVER VIDEO ACTION TO GREAT EFFECT



Two screen shots showing, eight grabbed shots from Geoff Halmer's latest film, outlining the Amiga graphics effects he devised.

highly praised recently when previewed at the Surrey Film Festival.

Geoff wanted to simulate the effect of a computer emitting a force field or electromagnetic waves that engulf a person and change him into a mass of ectoplasm before regenerating him as another person. The accompanying illustrations show seven screen shots grabbed from the video to illustrate how he achieved this.

To compile these scenes, Geoff took the relevant video shots (about six different camera positions) and then digitized one frame from each scene, using a Vidi Amiga. Each of that colour used to draw the lines, were changed to the background colour. This left wire frame outlines which were then transfered to new frames, enabling a fresh palette to be used.

Geoff then drew the required special effects - imitating electromagnetic force fields and rays - using the wire frame outlines as a guide. These lines were then erased by changing them to the background colour. In this way, Geoff produced approximately five hundred animated frames, which were then genlocked over the video image to produce the desired result.

The final effect was excellent

tions" the best of success in the "Movie '94" competition, and look forward to seeing more of their Amiga graphics.

Jessops Video & Amiga Courses

For some time now, Jessops - whose photography and video stores are spread across the country - have been running schools of photography and videography, either locally or at the air-conditioned lecture theatre of their head office in Leicester.

What may be of interest to readers (if you'd like to emulate the inputs and YC, SVHS and RGB outputs.

An added feature is the ability to edit using wipes, fades and dissolves as well as the ubiquitous straight cut. It is compatible with the 16 bit sound boards from SunRize Industries and has a maximum resolution of 768 x 622.

It should be shipping to Britain by the time you read this, otherwise for further details contact: Anti Gravity Products, 456 Lincoln Boulevard, Santa Monica, California 90402. Telephone 010 1 310 393 6650.

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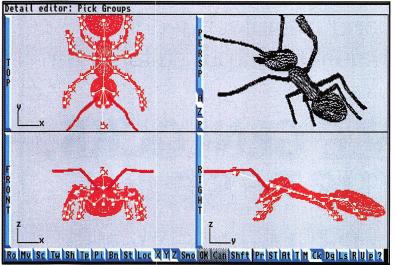
TRADE ENQUIRIES WELCOME





AUI MENTOR

ack in the detail editor for a moment. The problem with the cycle editor is that it's often very difficult to visualise the exact positions of an object's limbs. The answer is to create all of the key frames in the detail editor instead. Just select 'Cycle Transforms' under the Functions menu. It will now be



An ant ready for the cycle editor.

design stage.

it's hellishly fiddly.

Here it is if you

object into the

PLAN AHEAD.

need it: load the

cycle editor, use Pick Object and

There IS a way to alter the

direction of an axis later but

of an axis, so the best advice is

ticked. As you move and rotate limbs, you will see that they join at the correct places. Make sure that you have always used 'Cycle Setup' before using an object for cycling. It won't work if you don't.

Every time you create a key pose in the detail editor, save it with a useful name like robot.pose1 or robot.LeftArmUp etc.. When you've created and saved a new pose, go back to the cycle editor and load up your BASIC robot (not the new pose just created). Create a set of frames long enough to cover all of your saved poses. Now go to the relevant frames, make them key frames first and then use 'Load Pose' under the Cell menu. In your case, just start with a 10 frame cycle and use 'Load Pose' in frame 5* to load in say, robot.LeftArmUp.

You can even go the other way, by using 'Snap Shot' in the cycle editor and saving the object out as another pose. This can then be loaded into the detail editor for fine tuning.

The whole cycle system is fairly flexible but it does have its strange anomalies and limitations. You will find that there are some combinations of moves, pivots and twists that it simply can't handle.

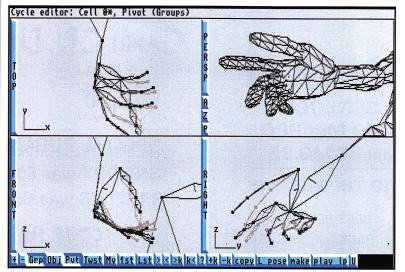
Not Proper "Not proper animated object" This unhelpful message will sometimes appear when you try to load a previously created cycle object back into the cycle editor. Easy, just load it into the detail editor and use `Cycle Setup' once on it. It should now load fine.

Important

If you ever intend to have your cycle object follow a path, then don't forget that it is the Y axis that does the

Barry McCarthy gives you some vital tips on how to manage the graphics abilities of your Amiga Imagine.

Carrying on from AUI March/April, we'll take you through the process of using cycle objects in the stage editor and provide you with some useful hints on adjusting cycle objects from within the detail editor. So I suggest that you refresh your memory by finding the last issue of AUI and while you're at it, dig out the robot.cycle object, because this now follows straight on...



A jointed human hand in the detail editor... following. Make sure that your

ROOT axis has the Y pointing in the desired direction at the start of your Pivot or Twist on EACH Key frame (rotating the offending axis). This is the ONLY way to alter the direction

The Stage Stage

Finally, a quick run down on using cycle objects in the Stage and Action Editors. After all, this is the whole point of making cycle objects in the first place.

Right. Start a new project. Go to the Action Editor and set it to say, 30

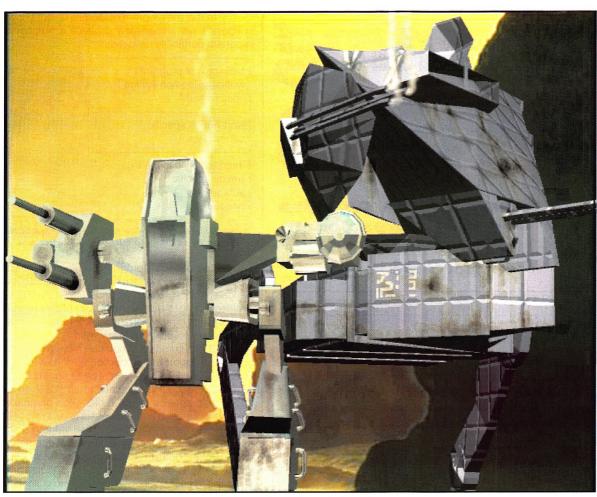
Go to the Stage Editor, frame 1. Add a closed path. Load your cycling robot. Make sure he has a 10 frame cycle with the first and last frame being almost the same. Key frame 5* has the different pose in it. Note that the cycle editor starts from frame 0 NOT 1, so last frame 9 will give you a 10 frame cycle. Oh how logical, not.

If you want a looping cvcle movement, such

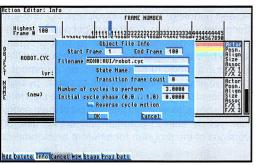
imported and animated in

the cycle editor.

AUI MENTOR



The invasion of the cycle objects!



The robot's actor bar in the Action editor.

as walking or running, use the

following technique. Make key

Create the pose for 5*. Now

make 1* a key frame as well and go

to frame 9*. Use Copy from 1*. This

will copy the pose from frame 1* to

frame 9* (you can only copy from

frames for 0*, 5* and 9*.

key frames). Now 'UnMake Key' on frame 1. You'll see that frame 9*, instead of being the same as frame 0* (therefore creating a pause in the movement), is the pose just before frame 0*. It makes sense when you see it!

Back to the job. Go to the Action

FRRME NUMBER
34567898 24567898 22456789 22456780 22456789 22456789 22456789 22456789 22456789 22456780 22456780 22456780 22456780 22 Highest 100 Rlign to Path Info Start Frame 1 End Frame 188 □ Keep Y horizontal □ Conform Group to Path Conform Object to Path Cancel Add Delete Info Cancel #S# Stage Proj Det

The robot's position bar.

Editor and click on the Actor bar of your robot. You can see the file name and two important boxes for cycle objects. 'Number of cycles to perform' is easy, just divide the number of total frames in your animation by the number of frames in your cycle. In our case 30/10 = 3. If you have something like 7.8, it's not a problem unless you are intending to loop the animation. Obviously if your cycle object only exists for 50 frames in a 250 frame animation, then just use the '50/ number of cycle frames', not the 250.

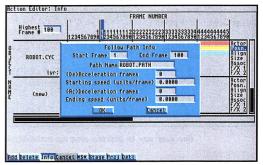
The other box is the 'Initial cycle phase' box. This just tells Imagine where to start the cycle. For example, the default of 0.0000 will start it from cycle frame 0. Probably what you want. If you wish, you could start it from frame 5 by putting 0.5 in the box. It represents a proportion of the total cycle frames, 0.0 = the first frame, 1.0 = the last frame.

Now, on the same robot, delete the position bar and add a new one 'Follow Path'. Make the Path Name the same as the path's name in the Action Editor (this will be PATH by default). Leave everything else alone and press OK.

Next, delete the Alignment bar and add a new one 'Align To Path'. Click OK.

Make sure your Actor, Position and Alignment bars all go from frame 1 to frame 30. Use info and alter them if you have to.

Now go back to the stage editor and 'Make' your animation and then view it. All being well, your robot now follows the looping path doing its 'thing' three times every



The robot's alignment bar.

revolution. You may have to fiddle with the camera position and zoom if you want this to fit in your camera view on the preview window.

That's a very simple example but with a bit of practice, you should be able to create quite complex motions and cycles. AUI

News

OpalVision Video modules. Oh yeah!? Centaur in the USA have finally posted official release dates for these legendary Toaster beaters (?). They said March 94 and they also say that they will change the video world as we know it. That's not as silly as it might sound, the Toaster did just that in the States and it also kept Amigas selling.

JPEG boards. Imagine being able to input and output full hires, interlaced PAL images at 25 frames per second, straight from your hard drive. That would be nice. Well, several companies are working on a board to do just that, including Macrosystms in Germany.

The board contains a realtime framegrabber and JPEG chips that compress the images in less than 1/25th of a second, sending them out to the harddrive as JPEG images for saving. I've been waiting for this device to appear on the Amiga market for some time and it seems that it's nearly here.

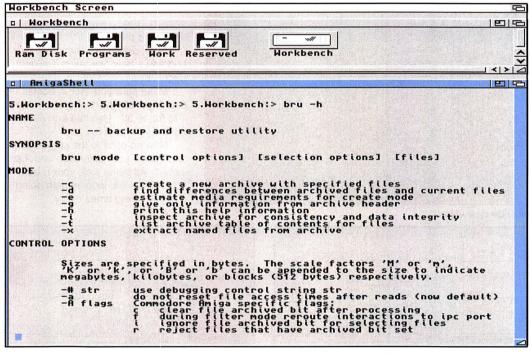
DMI have the Digital Broadcaster, Activa have the VideoCruncher, Advance Systems have a JPEG card and so does Macrsystems at least. They are said to be virtually ready but we'll hold out until they've all been reviewed. The VideoCruncher and Macrosystms board should be with us soon.

Programming

ortable code is code which can be made to run on all manner of different computers and operating system environments. However, the divisions between portable and non-portable code are not rigidly fixed and in practice there are varying degrees of code 'portability'. Ideally we would like to be able to take a program's source code. transfer it to another environment (directly from disk or perhaps via a serial link), recompile the source code and find that it still works. This level of portability, though possible, is in most cases restricted to programs which have easy to handle input/output reauirements.



Paul Overaa provides some professional tips on writing portable code.



One easy way to improve program portability is to opt for simple C-style (stdin/stdout) program I/O.

A more realistic definition of a portable program goes like this: a program can be considered portable IF it can be made to work on a new computer or a new operating system environment with less effort that it would take to completely re-write it. If such a task is easy the program may be considered to be very 'portable'. In opting to produce 'portable code' we need three things: processor independence, machine architecture independence and operating system independence. This rules out assembly language and so it's not surprising that portability discussions tend to revolve around the use of high-level languages.

One of the areas which can cause difficulties in any language is program I/O (input/output), screen handling, file handling, graphics, etc. Nowadays the various graphical WIMP style interfaces provided by competing machines cause no end of problems and the differences between the Amiga's Intuition interface and, say, Microsoft Windows is just one example. You cannot easily take a Microsoft Windows program and convert the existing interface calls into a set of equivalent Intuition based ones (if you could we'd see a lot more PC styled software arriving on the Amiga).

The Amiga's rather specialist library and

graphics arrangements add to all of these difficulties. One way to improve the portability of an Amiga program is to isolate the routines associated with program I/O and any other Amiga specific facilities into clearly identifiable areas of your source and then access these facilities indirectly, via routines collected together in a separate area of the program. Rather than use the SetRast() graphics library routine directly you might for instance use a SetScreenColour() call in the main code section of your program. This function would then be written as part of your Amiga-specific interface using code that looks something like this:

/* convert your colour number conventions to an Amiga oriented colour value if necessary */

void SetScreenColour(UBYTE colour_value)

SetRast(g rastport p, colour value);

In fact the program or module layout shown in figure 1 will immediately produce a number of important portability dividends:

| Main part of program | I written using non-Amiga I specific code | Non-Amiga specific | I subroutines I I Interface calls to the I I Amiga specific | I subroutines I I needed I

Amiga-specific functions can be isolated from the bulk of the program code by using an extra layer of interface calls.

To get such a program running on another machine you will doubtless have to re-write all of the Amiga-specific interface routines but you will have avoided having to alter the main body of the program code and that is an important consideration as far as overall code portability is concerned.

Some languages, notably C, have been designed to support the production of portable code. Used properly, one of C's greatest strengths is that it allows a modular programming approach to be adopted. In addition to this it has good parameter passing facilities, the pre-processor allows symbolic constants to be used so their actual values (which may need to be changed for different environments) can be isolated from the bulk of the code. With C. you can work with and compile program modules individually if necessary, so it's quite easy to collect the I/O and machine dependent support routines into separate files. Such support files can be created for screen handling, printer control, disk I/O and anything else which your program might need. With this approach it becomes possible to port programs simply by changing, ie re-writing, those support files. In fact if a program needs to run on a number of different environments it is even possible, by using conditional compilation to 'compile in' the right interface routines, to maintain just one set of main source files yet be able to automatically create different versions of the program for different environments.

A program can be considered portable IF it can be made to work on a new computer or a new operating system environment with less effort that it would take to completely re-write it.

Writing this type of code is not easy and there is the inevitable penalty of the extra layer of interface routines slowing down the underlying graphics calls. Nevertheless there are many benefits to be had for code re-use. If you ever develop a program that turns out to be a useful long term utility, one that is likely to be used across any number of different machines, skimping on the effort that you put into portability could end up costing you an awful lot of time. In the end you'll end up having totally to re-write your program to get it working on each new machine. The moral is simple. Don't get bogged down with portability considerations to the exclusion of everything else, but do try to consider the possible long term use of a piece of code when you first write it and plan accordingly! AUI

AUI MENTOR

magine that you have an Amiga word-processor that supports ARexx and that over the years you've built up a library of useful macros which cater for your (perhaps specialised) w/p needs. Now a new word-processor arrives which also supports ARexx, but is reported as

ARexx

being much better than the package you are currently using. You take a look at it, decide that it really is excellent and buy it. For the first few hours you are over-the-moon and then the bombshell drops. You realise that all of your specialist macros written for the first w/p package are going to have to be rewritten for the new package. Suddenly ARexx doesn't seem quite so good!

Worrying thought isn't it? And the bad news is that these types of problems are likely to appear with large amounts of the ARexx code which is being written at the moment. The reason is that although the ARexx language is standardised the command interfaces of most applications programs are not. Different developers have varying ideas on both the commands which should be provided and on their syntax. It is this factor, rather the ARexx language itself, which causes the 'portability' problems.

You might be forgiven for thinking that, since even programs which have related uses tend to adopt different interface commands, all ARexx macros will be inherently unportable. The good news however is that this is definitely NOT the case and for moving macros between related types of applications programs, it is actually quite easy to eliminate one of the biggest stumbling blocks. The best way to get the hang of the approach is to see some example code and that's what the rest of this article provides.

Text Block Conversion

The example I've chosen is w/p based and involves the creation of a potentially general number-units conversion macro whose main code should work with a variety of word-processors and text editors. The macro itself is going to collect a set of text lines marked out using the mouse, examine each line for a particular type of number-unit combination, and then convert any item pairs found into some other

Designing Macros

For Long Term Use

Paul Overaa gives you some ARexx ideas that will help you write re-usable macros.

number-unit form. These sort of macros are ideal for automatically converting tables, etc and although I've chosen an inches to centimetres conversion macro the ideas can be applied to the automated changing of inches to feet, binary numbers to hex, Fahrenheit temperatures to centigrade temperatures or anything else.

So this is a macro that could, for example, be used to replace the phrases '1.0 inches' with '2.54 centimetres', '2.0 inches' with '5.08 centimetres' and in general 'N inches' with 'Nx2.54 centimetres'. Normal editor-style search/replace facilities are, of course, never any good for this type of task because they tend to offer only direct text replacement.

The basic algorithm (plan) for this type of conversion macro is quite easy to state. I've decided to opt for a complete block copy coupled to a twinloop based line editing arangement because it offers more flexibility for possible future use. Listing 1 gives a description of what needs to be done:

Workbench Screen Ram Disk Programs Work Reserved Workbench o| AmigaShell 5.Ram Disk:> 5.Ram Disk:> bru -h bru -- backup and restore utility SYNOPSIS bru mode [control options] [selection options] [files] ODE create a new archive with specified files and current files estimate media requirements for create mode give only information from archive header print this help information from archive header print this help information inspect archive for consistency and data integrity list archive table of contents for files extract named files from archive CONTROL OPTIONS Sizes are specified in bytes. The scale factors 'M' or 'm',
'K' or 'k', or 'B' or 'b' can be appended to the size to indicate
megabytes, kilobytes, or blocks (512 bytes) respectively. use debugging control string str
do not reset file access times after reads (now default)
Commodore Abriga access times after reads (now default)
Commodore Abriga access times after processing
clear file archived bit of the reactions to ipc port
i ignore file archived bit for selecting files
reject files that have archived bit set
s set file archived bit after processing
set archive buffer size to N bytes (scalable)
background mode, no interaction with operator
always chown extracted files to the user's uid/gid
on some systems, provides speedup via double buffering
use specified file as archive ('-' for stdin/stdout)
fast mode, no checksum computations or checking # str -a -A flags

Care needs to be taken during coding if an ARexx macro is to have long term use.

Get block end line number

Move to start of block

For each line collect and store text line clear/delete original text line if not last line move to next line end

Move to start of block

For each line change text line as required insert modified text line move to next line end

Get block start line number

Listing 1: General layout of the main example code.

Now it is perfectly easy to plod through this description writing appropriate ARexx statements and applications-program commands but this coding approach will mear that applications program specific commands end up within your mair macro code. A better idea is to think

about the various steps that need to be carried out (e.g. collecting start and finishing line numbers, getting a line of text, deleting and replacing lines of text, moving to the start of a marked block etc.) and then write the macro as though functions exist which can carry out these operations. Listing 2 shows the result of doing this and the important thing to note here is that there is not one application-specific reference within the main code!

So far so good, but of course the macro will not work unless a suitable set of interface routines are available. It is the creation of the interface code that we'll be looking at in the next issue. **AUI**

Main macro code

exit rc

start=GetStartLineNumber()
finish=GetEndLineNumber()
call MoveToBlockStart(start finish)
do i=start to finish
text\$.i=GetTextLine()
call DeleteText()
if i~=finish then call MoveToNextLine()
end
call MoveToBlockStart(start finish)
do i=start to finish
new_line\$=ChangeLine(text\$.i)
call InsertTextLine(new_line\$)
call MoveToNextLine()
end

ChangeLine: procedure parse arg line\$ numeric digits 4 word count=Words(line\$) do i=1 to word count word\$.i=Word(line\$,i) /* dismantle text line */ end do i=1 to word_count-1 if DataType(word\$.i,'N') then do j=i+1if word\$.j='inches' then word\$.i=2.54*word\$.i word\$.j='centimetres' end end end line\$=" do i=1 to word_count line\$=line\$ word\$.i/* reconstruct text line */ end return line\$

Listing 2: The main code for a line-oriented table conversion macro.

Appliances of Science

David Taylor reviews Electronics, a book <u>published</u> in <u>conjunction</u> with The Science Museum.

hysics lost its appeal to me when my old teacher revealed that nothing ever exploded in the subject. From then on the only fun things were to do with electronics - there was

always the possibility you could blow those up.

Electronics, the latest in the Eyewitness Science series from Dorling Kindersley, was produced together with The Science Museum. It is as

beautifully illuminated as it is informatively illuminating. Each page explains several electronic devices, from simple circuits and their workings to remote controls and portable phones. There are explanations of the equipment and the ideas behind them with short biographies of important figures.

exander Graham Bell, are found as expected, but so are less well known figures such as Oliver Heaviside and Hans Christian Oersted. It might seem strange finding a seventeenth century Danish scientist on the same page

as a video recorder but bringing together the ideas and showing how they work in harmony is one of the book's strong features. All this easily accessible information

is juxtaposed with gorgeous colour photographs and diagrams.

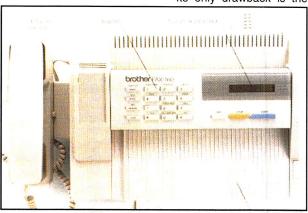
This book is ideal for the young interested in the subject. It presents electronics in a comprehensive manner, although it doesn't

attempt to be an in-depth treatment. It is an ideal source book for an introduction to the elements. More importantly, the style of the book is clear and crisp, making it inviting reading and capable of holding the attention of the

> So that's what a hard disk looks like.

age group whose only care in electronics is Sonic (or blowing things up!). It would make an excellent present for grand-children, children, nephews, nieces, etc...!

Its only drawback is the



Sending documents instantly by fax is taken for granted nowadays.

price. £9.99 is not cheap for only 64 pages. In fairness, the quality of print and detail, especially

with the research and gathering of photographs, do justify a tenner. If you're interested in electronics that is... *AUI*

INFO

Electronics

Roger Bridgman **Dorling Kindersley** £9.99

ISBN 0-7513-1039-5

COMPETITION

Win a copy of this gorgeous book!

Dorling Kindersley have got it together with AUI to give away a copy of Electronics to ten lucky readers.

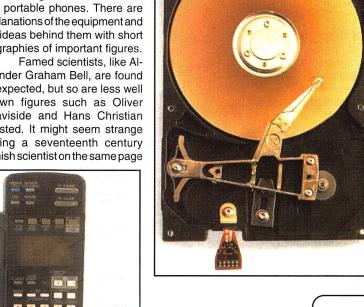
All you have to do is answer these questions and complete the tie breaker and a copy of this slinky book could be yours.

- Which Danish scientist linked magnetism to electricity?
- 2 What do the letters LCD stand for?
- What is the word 'fax' a poor abbreviation

Complete the following in not more than 12 words:

The electronic device I could not live without is my..... because it.....

Send your entries on a postcard to: The Electronics Competition AUI, Bradley Pavilions, Bradley Stoke, Bristol BS12 0BQ The Editor's decision is final. All entries must arrive before 30th June 1994.



Hans Christian Oersted was forever trying to get his picture in the Remote controls have become more user friendly and this book

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his general book on 680x0 programming starts off with a good chapter on data representation. It deals with things such as number base conversion, complementary arithmetic and includes a discussion of the IEEE floating point format used by some Amiga maths libraries. The chapters which follow also make for interesting reading and provide good, simplified, accounts of how the 68000 interacts with memory, of the basis of assembly language and of the general characteristics of assemblers.

The 68000 instruction set is introduced gradually and the char-

acteristics of the 68000 are dealt with in quite simple terms. All general assembly language 68000 FAMILY books provide this ASSEMBLY LANGUAGE type of material and in this respect the book is neither better, nor worse, than many others. There are however a number of areas where the book does score quite highly. During the addressing mode discussions for

68000 Family Assembly Language

Paul Overaa reviews a generic programming guide

example there are quite large sections which explain very clearly why the 68000's postincrement and predecrement addressing modes have been provided and how useful

they are for things like stack handling operations

This book's 720 pages provide a good introduction into the world of the 68000 family and a great many programming tips and hints are provided along the way.

You should never judge a book by its cover, but here's what the cover looks like anyway. Some program design issues are mentioned and there are particularly good chapters on subroutines, parameters passing methods, and topics like LINK/UNLK created local variables, stack-based parameter passing and re-entrancy. All of these things are as relevant to the Amiga programmer as to programmers of other machines and make interesting reading.

As far as the Amiga coder is concerned some parts of the book will be of limited value. There are sections which involve the use of a PC based 68000 cross assembler and simulator (provided on disk) and also discussions of a number of I/O support chips including the 68230 parallel interface/timer and 6850 serial chip which again are

not going to be directly relevant to the Amiga user.

Nevertheless, this book is one of the better offerings available. Like all general 68000 books, it is not going to teach you how to use Amiga libraries or interact with Intuition but it will fill in a lot of those 680x0 specific gaps with which more Amiga-oriented books tend not to deal with. The more advanced 680x0 programmer will incidentally also find good introductions to interrupt and exception handling, maths co-processor programming and so on.

This is a well written offering which, despite the fact that the Amiga doesn't get mentioned, provides a wealth of information for Amiga owners wanting to get into low-level 680x0 coding. **AUI**

INFO

68000 Family Assembly
Language
Alan Clements
International
Thomson Publishing
Price £20.95
ISBN: 0-534-93275-4

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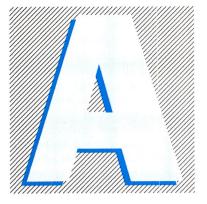
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Eas

Accelerator board

Provides an upgraded CPU and optional memory and co-processor add-itions. (Some only offer a double speed 68000.) The A600 is the only Amiga which lacks an expansion bus and therefore can't use an accelerator. The most popular accelerators provide an '030 or even an '040 as a replacement for the internal 680X0 CPU and the replacement CPU will generally be clocked at a much higher speed, giving greatly improved peformance.

AGA

Advanced Graphic Architecture. (Not as some call it, Advanced Gothic Architecture) The new all singing, all dancing Amiga chipset which powers the A4000, A1200 and CD32. Commodore decided at the last minute to rename it from AA (Advanced Amiga), probably to avoid embarrassing connotations with Alcoholics Anonymous.

Alice

The AGA equivalent of Agnus - is compatible with Agnus, but is 2-4 times as fast because it uses 32 bit data paths and has been redesigned internally.

Agnus

Contrary to what many think, Agnus is NOT a blitter chip, the blitter is only a very small part of Agnus. It is the primary video control centre of the Amiga, giving you the various graphic modes, etc. A blitter is a specialised graphics chip that can move large amounts of memory around very quickly, lending itself to animation, etc. Agnus goes further than that, as the chip can also perform operations on the graphics at the

same time. The OCS Agnus is capable of addressing 512K of CHIP RAM. The Agnus in the first generation of A500s and A2000s was called Fat Agnus, because of the change to a square chip design, but was exactly the same inside. Later a Fatter Agnus came along and A500's and A2000's had a 1 Meg Agnus. ECS machines have a 2 Meg Agnus. (Often misspelled Agnes - not surprising really.)

The Derringer is the gun-inspired name of this 'speeding bullet' accelerator.



AmigaDOS

Amiga Disk Operating System the part of the operating system that handles storage (ie floppy and hard disks) and a general term for commands used in the CLI/Shell.

AmigaGuide

A newish standard for hypertext documents adopted by Commodore. These are text documents with embedded hypertext links so you can jump from one part of a document to another related part by clicking on a word. Particularly useful for on-line help files as they are far quicker to search through than a manual.

The simple way to understand the Amiga dimension. All's own A to Z of the Amiga starts here.

AMOS

A version of BASIC that is particularly suited to writing games due to its plethora of graphics and sound commands and relatively fast execution speed. It can be compiled to run faster and is extendible; with AMOS 3D you can write 3D vector games. Fastidious programmers say it produces some awkward code at times, some less respectful ones have even been known to use the words "crap code".

Applcons, AppWindows, **AppMenuItems**

New features of Intuition (introduced in Workbench 2) which give programs hooks into Workbench. An Applcon is a special icon that a program puts on the Workbench; if another icon is dropped on top of it the program is informed of that files whereabouts -

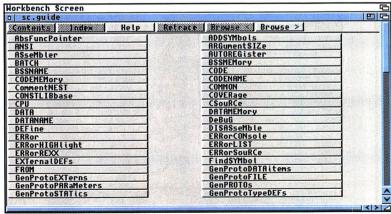
Application

Strictly this can be any program run on the computer but is more often used to refer to productivity software such as WPs, databases and so on. (Definition of computer software genius: 90% application, 10% masturbation.)

By standardizing requesters, Commodore hope to make things easier for the user (and the programmer).

AREXX

An Amiga version of the REXX programming language which is popular on mainframe computers. AREXX is counted as part of the Amiga operating system and allows Amiga pro-



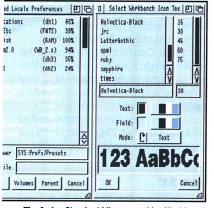
AmigaGuide is used to turn normal sequential text into structured documents.

and if the icon is double clicked the program will usually bring its screen and/or window to the front. AppWindows are windows which appear on the Workbench screen, into which you can drag icons, and again, the program will be informed of their whereabouts. AppMenuItems are items that appear in the Tools menu of Workbench.

grams to communicate to each other via AREXX message ports. The upshot of this is that you can write AREXX programs of your own that can control other AREXX supporting programs. Many programs use AREXX for macros (eg ProWrite, Professional Page) and most new major applications support it. Incidentally, IBM now include REXX with their OS/2 V2.

ASL

Amiga Standard Library – a special library dedicated to providing Amiga applications with standard file requesters etc. Before this, each program had to create its



The Amiga Standard Library provides Workbench programs with a standard way of using things like requestors.

own, which of course operated in a slightly different way to every other program. By standardizing requesters, Commodore hope to make things easier for the user (and the programmer). There are now ASL requesters for choosing files, fonts and screen modes (a new addition to Workbench 2.1/3).

Assembly code

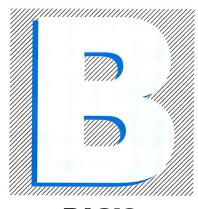
Assembler is a representation of machine code - the instructions that the CPU understands. It is thought as hard to program in (you have to do a lot more work to get things moving) but produces the fastest running code, as all other languages have to be translated to machine code before they'll work. Assembly code is a textual representation of machine code; each instruction is converted into a number representing that instruction by the Assembler program. Assembly language, i.e. LDA MOVE etc is Assembly language mnemonics. The Assembler produces Assembly CODE; the hex numbers Andy Eskelson is so fond of: FF AE 12 D3. These numbers are further translated into machine code within the microprocessor. When you say LDA the processor has to break this down into a couple of memory fetches and a store command. Quite often particularly in mainframe computers, the code that translates from assembly code to machine code (sometimes called microcode) can be changed. The processor is built up from a series of discrete elements, one of which is a very very fast set of ram chips that store the microcode.

Assign

An AmigaDos command that allows you to refer to a directory as if it were a device. This can be very time saving. For instance say you had a directory called Peanuts which was deeply nested in other directories, eg Work:plants/nuts/peanuts, and you needed to refer to it all the time, you could assign it as say Peanuts: and save having to go through all the directory layers in a file requester (or a lot of typing in the CLI/SHELL). AmigaDos2 allows multiple assigns - so you can refer to several different directories with one name. ASSIGN is a very useful command and allows you to do wonderful things like split your FONTS: directory over several disks.

AutoBoot

A feature of KickStart 1.3 onwards that allows you to boot from a hard disk or ROM on an expansion card rather than the default df0:.



BASIC

Beginners All purpose Symbolic Instruction Code. (Should have been called BAPSIC?) In the old 8-bit days most programmers cut their teeth on this language. Unfortunately it has a tendency to encourage sloppy, unstructured programming, which is why most people prefer C or Pascal these days. (Andy Eskelson says there is no such thing as an unstructured programming language, there are only unstructured programmers.) With the demise of AmigaBasic, there is no BASIC supplied as standard with the Amiga. The most popular BASICs are AMOS (with knobs on for games creation) and HiSoft BA-SIC (which addresses many criticisms programmers have of the language). If you want to program the Amiga, your best bet is C.

BBS – Bulletin Board System.

A computer that you can connect to via modem. BBS's, among other trhings like special support purposes, have

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hundreds of PD files that can be downloaded and there are usually mail and conference facilities as well. Warning! BBS's can be extremely addictive, so watch your phone bill!



Bitplanes

The method that Amigas use to store graphics in memory – for instance, a screen that contains 16 colours needs 4 bitplanes (remember your binary – a bit can either be on or off so one bitplane would give you two colours, two bitplanes four and so on). Unfortunately the information needed to represent any one pixel is thus kept in several memory locations, which means some types of graphic manipulation can be slower than 'chunky pixel' (see below) type graphics which keep the the information in one area. Bitplanes in themselves are not slow. It is just the way that the Amiga uses them. A specialist graphics system would normally use the bitplane method but have the ability to address all bitplanes at the same time, without any switching. this is VERY fast.

BOOPSI

Basic Object Orientated Programming System for Intuition – a new feature available in Workbench 2 onwards that makes life easier for programmers. Put simply, it allows programmers to come up with their own custom gadgets and share them with other programmers without them having to explain in great detail how to use them, working in a similar way to datatypes.

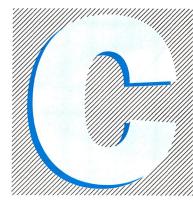
Bridgeboard

Not so much a PC emulator more a PC on a single card, an expansion card that 'bridges' the combined Zorro II/III and PC/ISA expansion slots of an A1500/A2000/A3000/A4000. These PC-on-a-card systems can share resources with the Amiga while running simultaneously – so you effectively have two computers in one box. most hindsight cleverdicks think CBM should have included this with ALL Amigas for the sake of the millions of extra machines they would have sold. And they're right.

Byte

A byte is really the smallest data size that a computer can take. Some old mainframes used 6 bit bytes. 8 bits, normally the basic unit by which memory is measured. 16 bit computers can read two bytes at once and 32 bit ones can read four.

You need lots of it to display high resolution graphics etc, but programs stored in it may run slower than in FAST RAM



C

relatively fast machine code (compared

Two things: 1) a programming land guage – the language of choice on the Amiga since most of the operating system is written in it – C compiles into

C is the language of choice on the Amiga, it's al structures, pointers and things like while banana.peel != 0x00ff { keep_peeling!() }. Simple really!!

to compiled BASIC – but the speed is really a function of the compiler not 0 itself) while still being relatively easy to use (compared to assembler); 2) a directory where most AmigaDos commands are kept.

CD ROM

A compact disc, identical in size and construction, but with the information recorded on it in a very different way

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to music CDs, however used for data storage. You can't write to a CD unless you have a CD recorder (about £5000) and special recordable CDs, but you can store huge amounts of data on them (600Mb plus - equal to around 250,000 A4 pages). Because of their large capacity they are hard to copy, which is why they are being pushed as a new medium for software such as games and video CDs.

CD32



Britain's fastest selling CD machine the CD32.

The replacement for CDTV, aimed at the console market. With a high double - speed CD ROM drive, 2 megabytes of RAM, 32 bit CPU, and the AGA chipset, it beats any console hands down. Its success though may depend on how well it is marketed, the quality of the software and whether Commodore's Zodiac chart reads well this year. Trying to beat the world is a chancey game but CBM have done it before...

CDTV

Commodore's first attempt at a CDbased Amiga (although initially they refused to acknowledge the fact that it was an Amiga at all). Marketed as a 'home multimedia system' - it was the first and had to overcome the problem of virtually creating its own market. (It wasn't a home computer, it wasn't a games console, what the hell was it?). In the end, it was mostly bought by people who already had Amigas. Philips' competing CD-I wasn't much more of a success but astonishingly is still trudging along. Commodore's second stab, CD32 (see above), looks much more promising.

CHIP RAM

The 2Mb of RAM (on ECS and AGA machines) which the custom chips can access. You need lots of it to display high resolution graphics etc, but programs stored in it may run slower than in FAST RAM because the CPU has to share it with the custom chips. The Chip Ram is only slower to the processor. The custom chips. hence the name chip RAM, have priority and can lock out the processor. The actual speed of access to the RAM is iust the same.

Chunky Pixels

A different way of keeping graphics in memory (as opposed to bitplanes). The colour information is stored pixel

> by pixel, so it is quicker and easier to manipulate the display in applications such as vector/ solid 3D graphics. Then the machine only has to write to one part of the memory to define what colour a pixel should be, instead of several. The CD32 is the first Amiga to be able to handle chunky pixel graphics (it

does this with a new custom chip which converts chunk pixeldata to bitplane data in realtime). Future Amigas should also have this capability, perhaps properly integrated into the system instead of requiring hardware conversion.

Now any program that needs to screen user input before the rest of the system can do it without clashing or crashing.

Clock Speed

The 'heartbeat' of a CPU and a measure of its speed. A chip at a high clock speed will run faster than the same chip at a slower speed. Though it isn't a very good way of comparing the speeds of two different processors as their instruction sets may be different. Some instructions take more than one clock cycle to perform on some chips - a 25Mhz 68030 can seem faster than a 33Mhz 80386, for instance. Clockspeeds are often derived from a common source and so are a bit of a compromise. The Amigas original clock speed of just over 7 Mhz was so chosen so that it could be used for the video timings as well as driving the processor.



Commodities

Before Workbench 2.0, there were many system enhancers like screen blankers, hot-keys, etc. which were essentially hacks into the operating system. This meant they would often clash with each other and crash the system. To try and solve this problem, Commodore introduced the Commodities standard. Now any program that needs to screen user input before the rest of the system can do it without clashing or crashing. Also any commodities that you have running can be temporarily disabled or removed by using the program 'Commodities Exchange'.

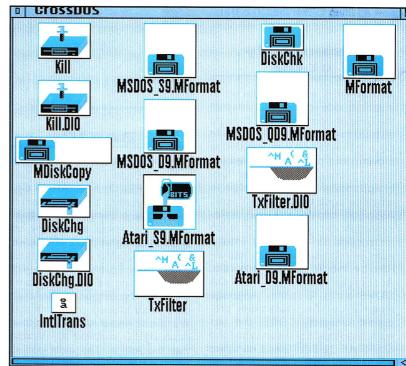
(Free advice: Never buy cocoa or pork belly futures on any commodities exchange - not even that of the Amiga - you'll lose your shirt. Those two plus soya beans have ruined more investors than even computer company's shares.)

Compiler

A program that translates programming code - which could be BASIC, C, Pascal, etc - into machine code, executable directly by the Amiga. Compiled languages normally run faster than interpreted ones, mainly because all the translation has already taken place. A compiler normally creates OBJECT code, which is NOT executable directly. Another program called the LINKER takes the object files and other system resources as needed and creates the run time file.

CPU

Central Processing Unit. The chip that co-ordinates all the other ones and does most of the work. In the Amiga this is the Motorola 68000 or one of its descendants. Unlike most other computers, the CPU in the Amiga has a substantial amount of its workload relieved by the Amiga custom chips.



A useful utility to mix formats.

CrossDos

A suite of programs and device drivers, now included with Workbench 2.1/3. which allows an Amiga to read, write and format MSDOS disks. AUI

You want to know more?

Of course you do! Watch for The A to Z of the Amiga, continued in the coming AUIs.



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THE STAKEOUT

Boldly going where no-one in their right mind would dream of venturing, the ever-courageous Gideon Overhead rides out in search of treasure into the uncharted mysteries of the Public Domain.

Scoring

The marks awarded to each PD disk are based purely upon its own merits and, of course, our personal views. Value for money and reliability are also taken into account as well as features and quality of the software.

Compatibility

The PD disks reviewed in this issue were tested on an A500 with Kickstart 1.3. Please check with your PD supplier that the disks you are ordering are compatible with vour Amiga, Amiga Plus, 600, or 1200 owners should be aware that roughly half of the software in the public domain will not work with Kickstart 2 or 3. Always ask first.



WOW! The long awaited follow up

to Spaceballs, that amazing rave

demo which had everybody going

"ooo" and "aahh". What's it like?

What's it like? Ok Gideon, calm

down and just get these babies



Disk D873/4

into disk drives. Well, after all the anticipation, it is not as mind boggling as the original. It doesn't have that one bit plane animation that was so fluid in the first one. Instead the anims have a bit more more depth to them and therefore are not as smooth. It is still very enjoyable to watch and if you were

• • • • • • • • •

impressed with the first one, then you must get this.

Shareware?

All freely distributable software comes under the rather deceiving umbrella of "public domain". Quite a lot of this software is, in fact, shareware. Shareware means that if you like the software, or use it regularly, the author will request a reasonable donation from £5 to £20. There is usually a note on the disk informing you if the software is shareware or regular PD. Whether or not you send a donation to the author depends totally upon your level of conscience and morals. Remember, if you send a donation to the author, you may receive an updated version of the software. Even if you don't receive an

update, you will have given the author the incentive to continue contributing into the public domain.

Melon Slide Show

Disk 2889 17 Bit

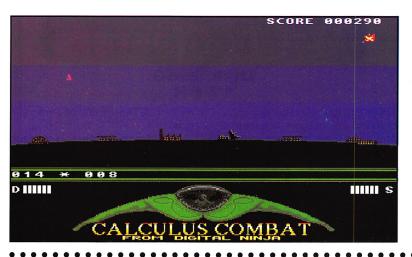
This well produced disk contains twenty pieces of art by a talented member of the Melon group called Mack. They have, as far I can tell, been created by hand. Some of the pictures are drawn in a comic style and are quite







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Calculus Combat

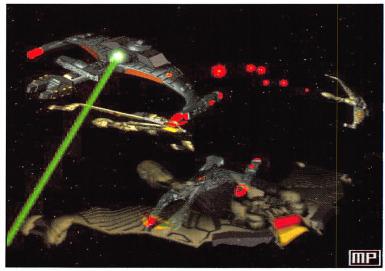
Disk EE43 NBS

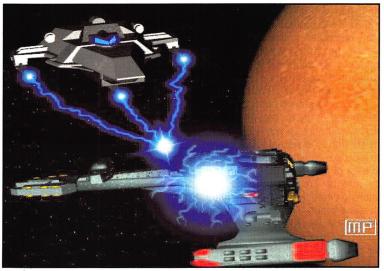
Learning is most interesting when it is made fun. Not that I found this fun as I was not really learning anything. However, for a young child just starting out this disk would be ideal. The game itself is based on the old arcade classic Armageddon which was popular during the Cold War, but has died out in the more democratic nineties. It involved defending cities from a nuclear attack by firing your own counter missiles with the mouse.

This version is slightly different as if you want to save your cities then you have to answer maths questions. Each question you get right sends up a missile to destroy the incoming attackers. It is quite a good game and is a perfect for children to use as a maths practicing tool.



Yes, I winced as well as I saw Mark Platts beloved Star **Trek Pictures corrupted for** the second time (!) by a combination of gremlins in the graphics department and the program QuickGrab which grabbed the pictures in a weird IFF format. I am determined to get these pictures published and, with fingers crossed, this has been rectified by Mark actually releasing his 24 bit originals to me so they can be seen in all their glory!





AUI PD STAKEOUT

CHARG



Disk 2945 17 Bit

This game must rank against Space Invaders as one of the oldest arcade games ever. I even remember playing it on the ZX81. In that particular 1K version you controlled a black block resting on a dotted line. There were several moving black strips at different depths below this line. The object was to drop depth charges over the side of the ship (small black blocks) and see if you could hit the strips. So has anything changed? Well, as the Amiga has more advanced

graphics than the ZX81 (just slightly!), all the blocks have been replaced with colourful sprites and there is of course sound in this version.

Matrix Blasters

Disk 2953 17 Bit

There are quite a few old arcade classics which have received the Amiga treatment this month and Matrix Blasters is another of them. Perhaps

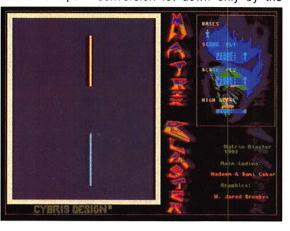
all the original ideas have been used up!

The author wanted see a proper version of Tron on the Amiga so he decided to create one himself. Tron has been converted to the Amiga before. It has been called such things as Light Cycles, and Grid Bugs, but the idea was the same.

You had to guide a line around the screen which left a trail behind it as it went. There were several other lines on the screen at the same time as you and the object was to survive by not bumping into your own or any body

else's trail. The last one on the screen

Matrix Blasters is a good conversion let down only by the



decision to use an interlace screen for the main game play screen. Play this for an hour and your eyes are liable to start watering.

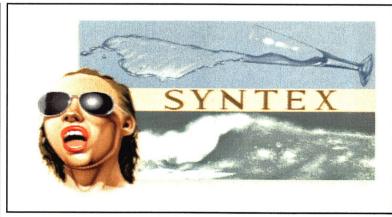
Sickball



Disk G370 **NBS**

If you have been involved with computer games since the beginning of time, then you will probably heard of Pong. This was probably the first game on any computer. At least it claims to be such, but in the wacky world of computers, its short history is badly documented and there are many contenders for the 'world's first' titles.

Pong consisted of a two bats at each end of the screen and a ball which was bounced between them. This version is essentially that game with a couple of extra features: sound and a lot of colours. There are a few nice effects like the bat and ball stretching when they come in contact with each other. The screen moves violently backwards and forwards during play making you feel quite ill after a while as the title suggests.





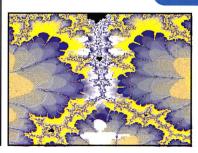


Syntex AGA **Slide Show**

Disk 2931 17 Bit

Before you say anything, the group who made this slide show is actually called Syntex not Syntax so it is in fact not a syntax error! It is one of the first AGA only slide shows I have come across and is certainly something. It contains some amazing hand drawn artwork which uses HAM8 in Hi Res Interlace mode. Some of these are truly astonishing. However, they take up a lot of disk space and so there are only seven pictures on two disks.

Jesus on Cheese



Disk D206 Visage Computers

About a year or so ago a rave demo came out called Jesus on E's. It was good, as demos used to go, and contained all the usual flashing and brain dissolving imagery that was common at the time. This demo is nothing new I am afraid. It still has the flashing and the pretty colours. The

tune is rather amusing though and there are some funny pictures of John Major. I decided to review this as both the tune and the imagery brought a smile to my face. It might do the same for you.

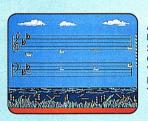
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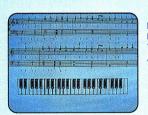
AS YOU PLAY THE SHOOTING GALLERY YOU'RE THE NOTES. 128 sounds without the computer... so you can perform at a friends house.

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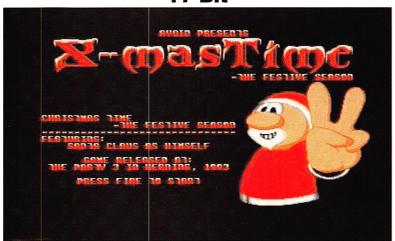
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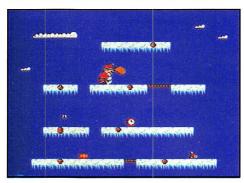
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AUI PD STAKEOUT

XMAS TIME

Disk 2952 17 Bit





I think somewhere along the line someone's timing is slightly out. This game was obviously intended for release at Christmas but either it took a long time to get to 17 Bit or it wasn't finished on time, who knows, or indeed cares!? It was written by a demo group, so the programming is very good. The game is no different from a hundred other platform games but it is not one of the worst of

which there are several doing the rounds at the moment.

You control Santa whose job it is to collect all the presents lying on the platform. Of course, there are baddies after you and this time your weapon is a sack you are carrying over your shoulder. Just wack those monsters with it and they will disappear (for at least 20 seconds!). If you get hit by a baddie then you will start crying and lose a life. It is very playable but there is a lack of decent music and sound effects.

Euphorion

Disk G099 Scribble PD

It is nice to see a vertical scrolling shoot 'em up that has not been programmed using SEUK. I use the word programmed in its loosest

possible term because all **SEUK** games look the same. This one is not much better because it is so hard to stay alive. Just hit one object and you are dead and have to



losing interest very quickly. There is a



can also be controlled by a second player to clear away any enemies with which player 1 can't cope.

collides. It

start at the beginning of the level. Some games do this and it is highly annoying, you find yourself

ASI 151

Disk ASI151 **NBS**

It is amazing to think that The Assassins have released 151 PD game compilations. Of course, an awful lot of these were total garbage, but this particular disk is not too bad. There are three games on here of which two are good. The first is Krillian which is based on Star Trek and there are loads of samples from the series.

The second is called Caffeine Free and is a very good Shoot 'em up. It was programmed in Blitz Basic which is remarkably good and in fact I haven't come across a bad program written in it. The game is slightly unusual as the ship you control banks up and down instead of moving flatly. This means that the laser fire is directed diagonally when you move,

quite original.





CONTACTS FOR PD REVIEWED IN THIS SECTION

NBS

U/F6 1 Chain Lane Newport Isle of Wight, PO 30 5QA Tel: 0983 529594

Pathfinder PD 41 Marion Street Bingley, West Yorkshire **BD16 4NQ**

Scribble PD 2 Hillside Cottages Burstall, Suffolk, IP8 3DY Tel: 0473 652588

17 Bit Software, 2/8 Market Street Wakefield, West Yorkshire WF1 1DH

Tel: 0924 366982

Information Unlimited 20 Pinewood Ave Lenzie Glasgow G66 4EQ

Jesus On Cheese Demo Visage Computers 18 Station Road Ilkeston Derbyshire DE7 5LD Tel: 0602 444501

Magnetic Fields PO Box 118 Preston Lancashire PR2 2AW

Tel: 0772 881190

If you have created a masterpiece and you would like it reviewed here or if you own a Public Domain company and want to contribute new

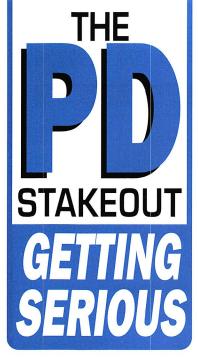
and interesting PD, please don't hesitate to send it in. The address is:

The PD Stakeout. AUI 48 George Street, London W1H 5RF

VIRUS FREE PD, 31 Faringdon Rd, Swindon, Wilts. Tel: 0793 432176

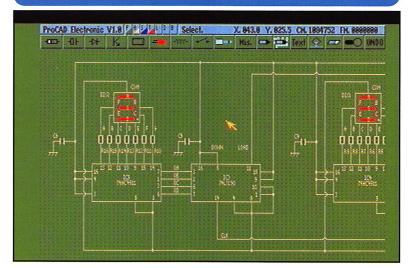
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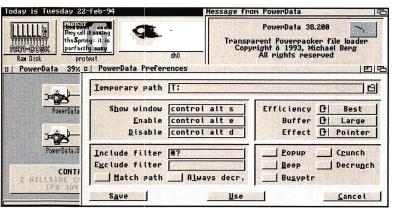


Disk U808 NBS

If you are an electrical engineer then this program will be your dream come true. ProCad is a circuit schematic drawing and PCB design tool. It is miles better than Troni CAD which I reviewed in November last year. Its numerous features are controlled using a combination of icons and pull down menus.

There are absolutely heaps of symbols from the quite ordinary resistors, of which there are many types, to more far out ones such as audio jacks and Ultrasonic Transducers. Before you rush out and buy a copy, this version has the save function disabled and you will therefore have to register if you want a full working version. It is well worth it!

90%



PowerData

Disk U238 Scribble PD

This is a very useful program for people with small hard drives. It is a patch that will enable applications to load in programs crunched with the excellent Powerpacker.

What is so new about that? I hear you cry! PPloadSeg already does that. Yes it does, but what it doesn't do is re-crunch them when you re-save them. For example, if you are creating a picture in DPaint and you then save it, the patch will first crunch it then save

it. Any data created by any application will be crunched.

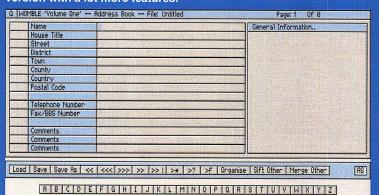
This program works really well. I tested it by loading a jpeg image into Adpro and then saving it out as 24 bit IFF to RAM. There was a short delay, about 20 seconds, while the program intercepted it and crunched the file. It was then saved. The only drawback is the delay but the faster your computer, the shorter the wait and there is an optimised 020+ version.

WOMBLE

Disk PU189 Pathfinder PD

The first thing I wanted to do once I had loaded this program was to find out why it is called Womble. On using it I found out Womble. It is a multipurpose organiser which contains a powerful address book, a database, a list generator, and a timetable system.

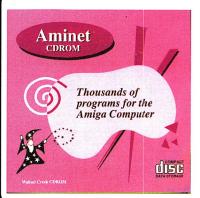
Like Wombles this program spends a lot of its time searching for things. It looks extremely professional and was written in Blitz Basic 2. What makes it so outstanding is the simple fact that you essentially have four programs in one. It really is a powerful program and although it is a fully working version if you register you receive a version with a lot more features.



95%

Aminet

Information Unlimited



This month's CD disk is American and contains PD from the Aminet site." What's Aminet?", I hear you cry! Well it is an Internet site which contains practically every bit of PD and shareware there is. The disk itself is in ISO9660 format and is therefore compatible with most or even all Amiga and PC CD-ROM drives. Almost every bit of PD on here is achieved with LHA. This firstly makes it ideal for use with bulletin boards and secondly means that there must be over a Gigabyte of data squeezed onto it.

The disk is split into several sections but there is still an awful lot in each directory. To give you an sample of how many files there are in one area, you will find 600+

Soundtracker, Protracker and MED modules spread over two or three directories. To hear them you would need first to de-archive each one. This can be a long and painful task. The best way is to buy ParNet and connect your CDTV to a faster computer and use Directory Opus to de-archive them to your hard drive.

Soundtracker modules make up only a small part of the disk. There are graphics, stacks of demos in DMS format, piles of utilities and heaps of games. The only drawback of buying this disk is that the utilities will date as upgrades come along, but I think it is great value for money at only £17.



Well, there are plenty of ways to move data between Amigas, some costing as little as a few pounds each. But just how much is your time worth? Amigas already

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WIBBLE WORLD GIDDY +Y

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AUI E NTERTAINMENT NOW

BRIAN

1 Meg **Psygnosis** £29.99

Reflections, Psygnosis's team of wonderboys responsible for the great Shadow of the Beast series, have just finished this, the latest of their developments for the Amiga's Liverpudlian cham-

Amiga won't do our beloved any harm at all. Brian runs, slides, ducks and swipes with the smoothness of a baby's bottom. In addition, he has a limited number of his special roars, which will kill or stun most

enemies. If you try this move on someone a lot bigger than you though, you might just find the roles reversed.

These actions, together with the multi-layered parallax scrolling updated at fifty frames a second, means that Brian the Lion is technically excellent. Brian also attempts to mimic some of the SNES's famous MODE 7 effects,

mapping, warping, stretching and

is a bright and racy platform game

that exudes its polished finish.

Brian races across each level

and moves around the map,

sometimes being whisked off to

the hidden levels by the friendly

whirlwinds. As he collects the

crystals lying around the levels,

The end result of all this effort



In the jungle, the lion's jungle...

pions. Brian the Lion is a good indication of the diversity of these guys' talents.

It seems a bit unfair to simply describe this game as a platformer, which I admit is what it is. Reflections have worked extensively to include as many pol-



I'm so happy - I just love bouncing around. such as zoom, curved texture



Undead dogs? What's going on?

ished effects and ideas as they could.

The game is a blatant attempt to emulate the type of game on the Sega Mega-drive. It's a Sonic beater is what I'm tryingtosay. There is no pointattackingSonic; it's the type of game that sells machines and a good imitation on the



Feel the wrath of my bad breath, you hound.



Hello, Mr Bunny, what can your shop in the clouds offer me today.

he gets the opportunity to spend them again in the 'Cloud Shop' where he can buy useful power ups to wing him on his way. The shop has two possible store keepers, one an honest bunny and the otherarip-offmerchant. Of course, sometimes you'll be so desperate that you'll have to pay the extortionate prices the bad guy asks in order to survive.

If you manage to complete the level within the bonus time, then there are three bonus levels on offer for you to attempt. Completing all three of these will award you maximum power-ups.

To avoid the irritation of continues, there is a password feature that is revealed every few levels.

Brian the Lion is a platform game of which Psygnosis are rightfully proud. The gameplay is slick and fast and the whole package is excellently presented.

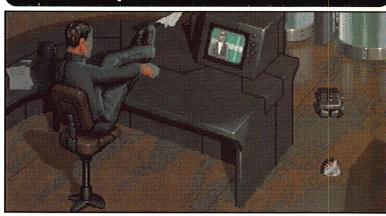
VERDICT

Graphics: 92% Sound: 85%

Gameplay: 85%

Overall: 87%

£29.99 1.3 MB free RAM **Mindscape**



Trill sits about, free but bored, waiting for his next adventure

When Liberation came out on CD 32, everyone went wild and happy and started taking drugs because the game was so good. No, no, they didn't. But they did like it and rightly so. The game was massive and loads of fun with great atmosphere provided by the CD quality sound.

However, Liberation has now been ported downwards to the standard Amigas. This just doesn't work and it doesn't work for fairly obvious reasons - the normal Amigas don't have the power or the storage advantages of the CD 32. This means that we say bye-bye to the lovely sound and back to ordinary 16-bit affairs.

Liberation is the sequel to Captive and the hero, Trill, is this time trying to break other people out of jail as he tries to prove that a big cover-up is going on. Security droids are making mistakes and getting the innocent into a lot of hot water they don't deserve. But Trill isn't going to take this sort of treachery lying down...

You take four droids on the warpath in this Dungeon Master style gameplay. The areas are still massive and there's lots to do. If you like this type of game, then Liberation is a great game. If you're just the casual player or a novice in this area, then you're likely to be baffled or bored by it.

Playing the detective is fun and getting hold of weapons that allow you to put a bit of muscle behind your questions both help to make the game



Move via the mouse and keyboard in this Dungeon Master layout.



Trill has been rescued by his cybotic mates. entertaining, if a bit slow at times.

On reflection, Liberation is a good game, but one that was better in its original format on CD.

VERDICT

Graphics:	74%
Sound:	74%
Gameplay:	87%
Overall:	80%

AUI ENTERTAINMENT Now

Who's stupid enough to mess with these guys?



Feel my blade, you swine.

Second

£29.99 **Psygnosis** 1 Meg

When the game First Samurai came out, it was pretty special. The game had great graphics and some superb samples. The whole thing was beautiful. This sequel is more of the same, only it doesn't seem so special since we've seen it before. The game looks almost identical and some of the samples have been kept (maybe that's because they were so popular the first time around?).

The gameplay takes place over a set of platforms with loads of the bad guys throwing themselves on the eager blade of your magic

sword. Magical power-ups are available as you slash your way through the levels. Accuracy with both the moves and attacks is necessary and for me the only real improvement was the two player option where friends can co-operate on the mission at the same time.

It's hard to expect much more from a sequel. The idea is to supply fans of the original with more of the same sort of thing and Second Samurai does just that, but maybe we should just be wanting fewer sequels. Why buy the same game twice?



Two warriors ready to go out and kick some...

VERDICT

Graphics:	87%
Sound:	82%
Gameplay:	84%
Overall:	85%

£29.99 **Psygnosis**

A beautiful, but painfully short, intro leads into this dull game. With the one hand, Psygnosis publish Brian the Lion and then with the other they subject us to this. It's a boring platform puzzle with a well animated but uncolourful blob as a hero, who shuffles along as if he needs to see a doctor.

The most embarrassing thing is the way Puggsy carries any object. Oh dear, did they really have to make him look such a ****? Probably.

If you really need to know, the idea is to make your way to the exit of each level by overcoming the obstacles in your way. This might mean anything from grabbing a stupid looking gun and shooting lame pebbles at things to moving objects so that you can



On the beach... life certainly is one if you've forked out thirty quid for this!



Why does Puggsy look such a dork? Cute he

manoeuvre yourself over obstacles. I don't think you want to know

anything more about this piece of dross. I think it will be kicked, with some embarrassment, under Psygnosis's carpet shortly after its release.

VERDICT

Graphics:	74%
Sound:	60%
Gameplay:	56%
Overall:	50%

PECIAL

With Ishar 3 in the offing, **Daze Marketing have** decided to make a great offer available to AUI readers. Two of their most popular titles, Ishar and Transarctica, both over £25 in the shops can be ordered directly from them for ONLY £4.99 each. A1200 version of these two scorchers can be snatched up for only £1 more at £5.99.

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AUI ENTERTAINMENT **N**OW



was fully expecting the whole Tinsel Town works, revolving spotlights reaching up into the night sky, paparazzi thronging around the entrance to the ceremony, lots and lots of beautiful people being seen and wanting to be seen and of course the

A likeable little chap.

obligatory speech thanking manager, agent, mirror etc. But dear knowing reader. Oscar is not about that at all. It is in fact yet another cutie platform game with colourful backdrops and loads of monsters that get in the way of

Using Zoom you can see all at close quarters.

your friends and even by modem.

ing from Hitler to Attila the Hun) or with

countries under your control, you build

up armies with a choice of of unit types

and then invade. You can either have

Starting with a modest amount of

the real purpose of the game, to collect loads of oscars dotted about the place.

At the start of the game Oscar (a sort of mix between Mario, Sonic and Zool) arrives for a night at the flicks and in the fover are the entrances to each movie. Unfortunately, it doesn't turn

out quite like he had planned! Picking an entrance, Oscar is transported to that yery World the movie is depicting and has to find his way back by collecting the little statuettes. There are five Worlds to ex-

plore from a Western to a Futuristic and each one has secret bonus levels and more than a few bogus levels, which do you no good at all!

Oscar, while being very colourful, musical and jolly, suffers from spongy joystick control and slows down when the screen is full of moving parts. It also takes an absolute age to load each level which these days frankly is

In-game you get to use plenty of extras if you can get to them, like speed up boots, wings, potions and springy shoes and Oscar can use a yo

> yo as a weapon if you can find it.

As a new platformer, the game's unimpressive, you're better off getting Zool 2 or even Spot.

The Sci-Fi level. 13 more Oscars to find.

VERDICT **Graphics:** 76% Sound: 56% **69% Gameplay: Overall:** 62%

quicker through invading only those countries who are resource rich. Like the board game Diplomacy, you can negotiate by alliances and pacts to buy safety on certain borders while you go about your business on other fronts and, of course, you are free to do the dirty on your ally, as long as you are happy to see out the consequences!

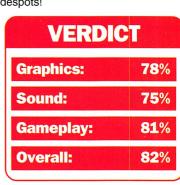
Other means at your disposal could be to employ spies or use the services of subversive activists to encour-

age revolution and unrest.

If all this wets your appetite, there's more, in the guise of a random world generator program included on the disk. So, once you've conquered the pre set world, you can make your own.

It has done Impressions a great deal of good opening up in the States. Their product is slicker.

stronger and the topics more varied. I think this one will do well both here and Stateside, because Global Domination is a hell of a lot of fun. Take it from me, the last of the truly despotic despots!



Impressions £29.99 1 Meg

have always had a fond fascination for world domination games. It must be the dictating despot in me that has me drawn like a moth to a flame when I get a sniff of one. It all started with Risk! that great boardgame. We used to stay up all night playing till there was only one super power left. Risk! to this day still has it and all the games since including computer versions are based on its game engine.



Like Risk the object is to own ze vorld!!

Impressions, never slow in recognising a good earner have in Global Domination a fair version of the genre. It is incredibly easy to get into and has enough levels of difficulty to suit all types of player, although playing it at 'despot level' to suit my modest ego proved my undoing!

The game is simply a multi-player conquest sim that you can play solo (against five computer opponents rangcomputer or zoom down to get a satellite view of the battlefield and lead your troops in a more detailed attack. The satellite view is impressive graphically and uses animation and sound effects to give you that 'battle in your own living room' atmosphere.

Where the game differs from the Risk! scenario is that each country has

a potential resource value and good strategic planning will see you amass precious armies

Oh oh Julius is on the warpath!



Here you can build armies and utilise your energy points.





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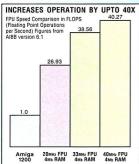




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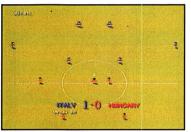
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Award Winners Gold Edin



SENSIBLE



One-Nil! One-Nil! One-Nil! One-Nil!

This game originally hailed from Renegade and, a development of Sensible's Microprose Soccer, brought John Hare's highly creative team's own name forcefully before the public. On Award Winners you even get the 1992-93 edition (which most people thought was the best of the two initial versions). If you've not played computer soccer before, here's a quick idea of what the fuss is about.

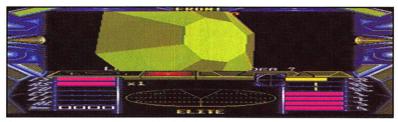
Most computer soccer is played from top to bottom of the screen, so you get to see the back of one goal and the front of the other. The players in Sensi don't hang onto the ball as if by magic (as Ryan Giggs seems to do), they have to control it and that means that the ball can come unstuck from their feet.

Sensi is exceptionally playable. This is largely due to the excellent control system devised by Sensible and it makes the game very easy to get into. The players' names can all be changed to give realism (or humour) to the teams (I once won the league with a team called Penis Names). Class.

Empire £29.99

Award Winners offers something a little unusual in this drab, grey world of profit margins and endless platform games: a combination of four very different games which have all won awards. Hence the title.

What really sets this compilation apart is the quality of the games on it.



Commander Jameson, will you accept this mission? He flies through space with the greatest of ease.



Elite is a legend. I can say no more. You must be very new to the whole computer games scene if you haven't heard of the greatest ever space trading game. Pick up supplies at one planet and fly them to the next, making a tidy profit into the bargain. But what fun can there be if things are so simple? Didn't I mention the pirates?

You have to fight your way past

baddies whose sole aim in life is to pick off easy suckers like you. The rotters. As you earn money, your ship can be armed to the teeth, until you reach the stage when you scare yourself by looking in the mirror. Then, the only people stupid enough to challenge you are the Thargoids... but I won't tell you too much about them. Sheer brilliance

What a Team . . .

This compilation is the most impressive I have ever clapped paws on. Four games, with each the best in its field for a long, long time and every one of them still a very good game by today's standards.

Each could stand up as a full-price release, even now (and Elite is YEARS old), which says something about the value to be had here. It's superb

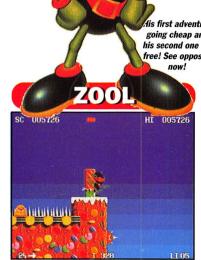
You could spend £300 on other games before you spend £30 again on something which gives you as much as Award Winners. The only possible drawback I can foresee is that most people will have bought one or maybe more of these in the past. If you don't own any of them, buy this now. Even if you already own one of the games, seriously consider it.

Everyone loves the most natural snooker player that the world has yet produced, even if he is less than goodlooking and has a blossoming bald patch. Jimmy White's Snooker was just as well loved when it came out from Virgin some years ago. It is the most realistic attempt at my favourite sport ever.

You can zoom in or out of a shot, put spin and side on the cueball, raise or lower the tip of the cue to reach the tougher shots and even chalk your cue. Leaving the mouse alone for a while sets off the silly attract modes, which include flies buzzing around the table and makes the balls stick their tongues out at you.

There are small faults with the game. The safety play of the computer opponents is abysmal. Even Jimmy White can't do more than leave the cueball on the side cushion. He makes up for this lack of thinking ability with an incredibly accurate potting action, including the unrealistic pots off of the side cushions and from snookers.

That aside, there is little wrong with this excellent sports game.



Ninja balancing skills de nstrated by Mr Zool.



Big bumble bees stop me from getting the sweeties.

The ultimate platform game for the Amiga (at least, until Zool 2 arrived not so long ago), Zool made Sonic fans freak and Mario addicts wail. The graphics! The tunes! The colours!

OK, so there couldn't be sound FX and tunes at the same time, but that was a small price to pay for such classy slice- and shoot-em-up action. There are loads of levels packed with pickups and each has its own theme. For instance, level one is made up entirely of sweets and goodies, while level two is a musical paradise.

Zool has never been my favourite game, but platform fans will love it.

VERDI	CT
Graphics:	82%
Sound:	85%
Gameplay:	90%
Overall:	90%

AUI COMPETITION



In Zool 2, what is Zool's female accomplice called?

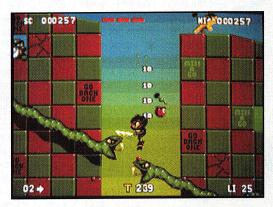
Keep Zool!

2

Which dimension is Zool from?

3

What is Zool's two headed dog called?



get your hands on these fantastic prizes. Simply

answerthese easy questions and post your entry to AUI and one of those packs could be yours.

Send your entries on a postcard please to: The Zool 2 Competition, *AUI*, Bradley Pavilions, Bradley Stoke, Bristol BS12 0BQ

Your entries must reach us by 30th June 1994. The decision of the Editor is final.

AUI E NTERTAINMENT **N**OW

Genesia

Mindscape £29.99 1 Meg

ell, full marks to the bloke who wrote the 64 page manual, because after reading it, you are none the wiser how to play the game! It must take true talent to write pages and

pages of information which helps the reader not one bit. There is no mention of what the icons mean, how to interact with the program, which mouse buttons to use or even a pointer to show you where your own land lies. Add to all this a fussy start up procedure that has you setting yourself up on a config disk and then rebooting the program

using disk 2 as the boot and putting disk 1 in a second drive. (Well, it's obvious, innit?) Confusion reigns supreme.

3 weeks later you have worked out how to play Genesia and realise that you have another God game on your hands. It has got the usual Populous-like 3D landscape rendered in pretty colourful graphics that change with the seasons. The landscape scrolls by, albeit rather jerkily and once you've figured just what each icon represents you realise that for fans of the think before you leap type game, Genesia

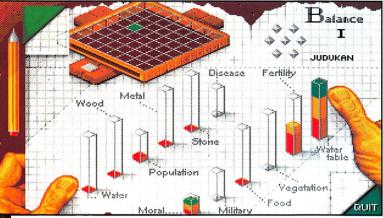
will be strategy heaven.

You begin the game with a small community living in simple dwellings and from there you have to build and build until you reign over a mighty force. There must be three different



tribes in the game and these can be either human or computer controlled, through a series of turns or 'goes' as the interface tells us.

During your turn, you can appoint different trades to your people, making some of them architects (to build better buildings), farmers (you've got to eat) woodcutters, carpenters and even inventors, who, given time, will create weapons and even viruses against disease. The population grows alarmingly slowly and it will take many days before you can garner enough people to distribute trades out evenly. After



From here you can monitor your population growth.

Tax the buggers.

that it is time to start grabbing other people's land and for this naturally you need an army. These hardy guys will protect your city.

hardy guys will protect your city and if you so desire take over ze vorld!!

There is a sub-plot which entails you searching for seven mystical jewels which hold the key to life as we know it and they are scattered around the landscape.

It's not all downhill news though, the graphics are pretty and there are some atmospheric sounds denoting the seasons and where you are on the map. My particular favourite is the lapping water by the beach.

The problem with the game is that as an idea it tries to go one step further than Populous or Meglomania and

actually take you inside the buildings. It has real identities for each of your tribe and the search for the jewels adds an adventuring element to the proceedings. But in reality this is just salad dressing for a game that doesn't offer enough variation to warrant spending the money on if you already own one of the Populous set.

VERDICT

Graphics: 83%
Sound: 79%

Gameplay: 62%

Overall: 67%

FANTAS1

D [ZZZZY

Codemasters £24.95

traight from the Sega game comes the 'Codies best seller, Dizzy, only now on the Amiga we have got a 32 colour scrolling screen on top of a 16 parallax screen. There have been over 2 million Dizzies sold on all formats, but for the life of me, I can't see what all the fuss is about. I remember the dire Crystal Kingdom, which was the last Dizzy game

on Amiga and I'm pleased to say that this one is better but unfortunately not much. Yes, it is a huge cartoony arcade game, and there is an adventuring feel to it, with plenty of objects to pick up and use, but so what's

Who would capture her!!

new? The plot concerns Dizzy's girlfriend Daisy, who has been kidnapped by the evil wizard Zaks and incarcerated in his magic castle. Dizzy, who is really a walking egg, has to leave the safety of his treehouse (where the Yolkfolk live) and rescue her.

Graphically it's adequate, with the parallax scrolling in the background adding mildly to the effects and the puzzles are not so much difficult, more numerous. For instance, there is a platform that is too high to jump onto, but attached to it is a rope and a hook. In another part of the map you'll find a weight, which when attached to the hook will lower the platform so you can jump it. You get the usual three lives, although more can be added when you solve certain puzzles. You lose lives when you bump into creatures and sustain too much damage, but energy can be restored when you eat fruit. The



Dozzy's just found a key.

only way to reach the end is to accumalate 250 spinning stars that are dotted about the various landscapes. These will get you into the castle and into the arms of Daisy. I've seen it all before and while it may suit a Sega console, I do feel the Amiga deserves better. Not for eggheads either.

VERDICT

Graphics:	71%
Sound:	70%
Gameplay:	67%
Overall:	69%

NEWS NEWS NEWS!

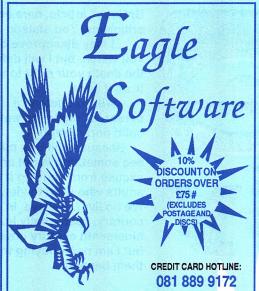
Here are some exclusive screenshots of the fabby new Impressions' business sim DETROIT. Created by the same team who gave us the great AIRBUCKS, this one focuses on .. wait for it CARS! You get to design your dream car, recruit your workforce and mass produce it losing millions of pounds in the process, if England's car making expertise is anything to go by! (Down, Rover!)

As the MD you get to make all the real decisions, like how many factories to build, how to market the model, which countries to sell into, advertise on bill-boards or TV or magazines and compete against either 3 computer controlled or human companies.

You may want to stick to sports cars, or try moving into industrial mode and produce trucks. DETROIT looks like being an interesting release and I can hardly wait to see the end result.



Upwardly mobile with Impressions latest.



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to reply

Brokers" article, here are my criticisms. You stated:

- ...I may disapprove of what you watch, but I will defend to the death your right to watch it. as it were.
- Will you defend a person's "rights" to watch child pornography?

Because children might see something is not an excuse from denying it to adults who wish to view it. We do live, I believe, in a free country. I personally loathe nineteenth century novels, but I am not lobbying to have them banned.

Dear AUI.

Firstly let me say a thank you to your team for consistently putting out the most evenly balanced Amiga Magazine. It's a real pleasure to read it each month.

Being fairly new to computers and having now been hooked, I found that I really enjoy messing around with DTP, but the biggest pain was that when concentrating on what was happening on the screen my little rodent had this annoying habit of running off the edge of the mat.

Now you would think that it would be a relatively easy problem to solve, (1) Either shorten my arms (2) Put a short choke chain on the little pest (3) Buy a larger Mat, well I settled for the third option, from whence came all my problems. No one seems to sell them, you can get the standard size ones literally anywhere, but ask for a larger one and mostly all you get is a blank look and the sales assistant then proceeds to scratch his head and look dumbfounded that anyone would ever want anything that's not standardised. However, AUI to the rescue!

Back in your September 93 issue, you ran a small article on page 12 about a company, they were selling a Mouse Mat Calendar, whilst the Mouse Mat you were writing about was not of particular interest to me, the fact that you kindly gave the name of the company was.

The company you mentioned could not help me, but they were very helpful and gave me the name of their supplier, Greywell

This is where you get your chance to speak - or write - your mind about what's bugging you. Bud Vennos fields the bouquets and the brickbats.

Press, who, when contacted were more than happy to do me a one off Mat to whatever size I required, (in fact I was so pleased to eventually find one I bought two) and what's more they will put almost anything on it, In my case it was a large photograph of a Motorcycle which was a GL1500, the finish is superb and just wipes clean and shows no signs of wear at all.

If any other readers of AUI are experiencing a similar problem with overactive arms or a runaway rodent may I suggest that they contact:

Greywell Press, 10 Arrow Industrial Estate, Eelmoor Road, Farnborough, Hants. GU14 7QN Tel: 544221

Just like reading AUI, they won't be disappointed Yours sincerely

Peter Hatton Camberley, Surrey

Dear Peter.

Thanks for your compliments and your pleasant letter. It's really great to hear such a happy ending to your MATter sorry, I couldn't resist that one. We get so many people complaining about companies who won't or can't help them. This seems particularly true of the computer world where the industry is so new that very few people have much experience of dealing with the public and the word "service" is barely understood. Greywell certainly seem just the kind of

organisation that deserves to prosper and I hope that any AUI reader will contact them if their needs spread to larger mats as vours did.

I had a lovely mouse once. It was "for the Amiga user with everything" - ah those were the days!. What was special about it? It was a delightful leather yes, real leather mat. Fawn in colour and soft and classy to the feel.

The trouble was that I met a girl who was also soft and classy to the feel and a few warm words in the middle of the night and in a moment of madness I gave it to her - the leather mat I mean.

Now I make do with a bright red one kindly presented to me by the games club Special Reserve. It's nice and it looks cheerful but that soft and classy leather one still remains in my heart. Do you think that Grevwell would make me another one?

Dear AUI I own an Amiga 600 and would like to purchase games such as "Strip Poker" and other soft porn disks of this nature, please could you write back and tell me where I could obtain these items.

Thank you **XXXXXXXX** (PS Please do not publish this letter)

Dear AUI Regarding the "Porn

- "Free country" does not mean you're free to do whatever you want. You cannot lawfully steal, murder, or rape - or do anything else the government decides is morally unacceptable. It is entirely within the rights of a free country's government to ban pornography, if it decides pornography is morally unacceptable. In today's opinion, pornography is a moral issue; nineteenth century novels are not.

Censorhip in any form has a tendency to undermine all other rights to personal freedom; it is not only hypocritical but also a denial of the individual's right to make his or her own decision.

- You do not have the "personal freedom" to murder someone, because it's morally unacceptable. Likewise, you do not have the "personal freedom" to watch something that the government decides is morally unacceptable. Give some examples of how censorship "has a tendency to undermine all other rights to freedom" to prove your

What is on Page 3 of that government-supporting newspaper bought by over 3 million people every day? Try banning that - even from children!

- Just because something is very difficult to ban, doesn't mean it shouldn't be

banned.

Let me say something very simple and fundamental about the computer porn debate. It all comes down to whether the Lord exists or not. Jesus states, "Whoever looks at a woman to lust for her has already committed adultery with her in his heart" (Matthew 5:28b). Therefore since lust is wrong, pornography must be wrong, because people look at it for lust.

But if the Lord does not exist, we can all do whatever we feel like, because there's no judgement waiting for us when we die. We can have all the pornography we want, and all types of it: porn depicting homosexual sex acts, sex with animals, sex with the dead, sex with children. Who's to say any of this is wrong? And who's to say it's wrong to lie and steal and murder?

The Lord has stated His absolute rights and wrongs. You can obey Him or you can obey yourself. I'm a Christian, and want to leave you with two quotes from the Word of God:

The fool has said in his heart,

"There is no God." They are corrupt, They have done abominable works,

There is none who does good. (Psalm 14:1)

"...unless you repent you will all likewise perish." (Luke 13:3)

Yours sincerely **Darryl Sloan of Killicomaine Evangelical Church Portadown** N. Ireland

P.S. I really appreciated Personal Paint. Thank you.

Dear Darryl, Answering all of your criticisms would take up much more space than we can give to Write to Reply but you deserve an answer and your points are important so I've answered at length...

One of the problems with pornography - of any kind - is that what may be pornographic to you may not be to someone else. Yet you want you - or censors 'repesenting' you - to judge not what is physically damaging (and so a question of legality), but to judge a "moral"

question, which is another word that has differing meanings to different people. Can we say that another country's (sexual) standards are wrong because they don't agree with ours? By what right do we judge others unless their practices endanger us or others?

That is why "pornography" and any similar freedom of the individual should not be confused with such acts as murder. They do endanger and damage others and are rightly against the law.

You are right, just because something is difficult to ban that should not stop you from banning it. But equally if a law is impossible to enforce, it's often a good idea to discard it because it brings Law into disrepute. Sexuality does not equate to illegality - though it may in your mind equate to immorality or as you would put it, breaking God's law. But a substantial part of the world's population either does not believe in a Christian god or any god at all. Why should you force your views of your God's morality on them? Some religions are far from straitlaced in their regard to sex. Go to the temples of Khajaraou in India and look at the ancient carvings. They would make much of today's computerbased pornography seem tame.

What our Government keeps getting alarmed about is almost certainly impossible for them to control. And that's what is most alarming to them and to you. As the world opens up to electronic communications the tight little societies of the past are going to be broken wide open. I am not saying that this is a good thing, but only that people like yourself and the politicians who are afraid of public disapproval, but who are, according to recent potlitical scandals, in private as "pornographic" as anyone, are going to have to live with it. And you must realise that with this technological revolution that's happening there will be a change from a "closed" to an "open" society in which communication simply cannot be controlled as it used to be. A frightening feedom that may not be comfortable to live with if your ideas are from another era.

And I hope the Government never decides for me or for you what is "morally acceptable", only what is legally permissable. I have lived under regimes where they did decide on morality and those regimes were always totalitarian and freedom did not exist.

Above your letter I have printed another. We don't generally disregard requests for no publication, but in this case we did while ensuring the anonymity of the writer. I have printed it to show you others don't share your views.

Does the writer - or any others who have the same tastes - have a lesser right to what he or she wants than you, if you or anyone else is unaffected by what they privately see or do? I think not and a free society is one, I believe, where your rights and the writer's and mine are equal but our views and our private consenting acts are irrelevant to anyone but ourselves.

Yes, Personal Paint is a great program. And it's no business of anyone else but you what kind of pictures you create with it.

Dear AUI, I have just found out something that might be

relevant to all CD32 owners that are thinking of buying the FMV expansion module. It look's like Commodore

have updated the ROM chip inside the FMV module, so that you can play CD Videos available now for the CDi system, in addition to standard CD Videos that are not available vet. This is no rumour, but a proven fact after watching CDi disc version of Star Trek: The **Undiscovered Country on** CD32.

Due to possible legal problems with Philips, Commodore have not actually mentioned the capability of playing CDi video discs in the FMV module instructions.

Yours faithfully,

Charles Mo Taunton Somerset

Dear Charles. You're absolutely right. We know because we've all been sitting goggle-eyed while we run the films on the CD 32. Yowee! Video CD is coming!

Dear AUI, The machine I own is an

A1500 fitted with a GVP 105MB hard card and a **Fusion Forty 6840** accelerator. Now the fusion has a switch on the back in order that you can turn it on and off so that you can easily revert to the original 68000 CPU.

Where all this is leading to is that I have a gripe concerning magazines like yours, although the real culprits are software developers. Because such hardware add ons do not come cheap (at the time, the Fusion Forty cost nearly two grand), I'm becoming increasingly frustrated by software which crashes when run on a faster machine. Having to switch the accelerator off in order to run a particular piece of software is not an option I should have to consider - after all, what does an A4000 user do?

My present stand is that if it doesn't run on the Fusion card then I'm not interested. It would therefore be a great help if mags like AUI, when reviewing software, tested the product on a range of machines (eg. A500, A1200, A4000 etc) and noted any problems encountered and produced a compatibility table in a conspicuous part of the article, rather like the usual ratings out of ten you givehis, I feel, would benefit vourselves as much as anyone since it would tend to put you ahead of your competitors (who also seem to ignore so called "power users").

I think that with the Amiga it's a case of nice machine, shame about the software.

Yours Sincerely,

B.R. Martin

Dear B.R. Martin, The world's not always a very fair place. You paid a lot of mazooma for your Fusion Forty and naturally want the software to run on it, but our problem is that we don't possess all the marvellous hardware that the Amiga has - though we'd like to have it. So if we were to test programs on some configurations you can bet your American uncle's bottom dollar that someone would complain that the software we were reviewing didn't run on their's. The world is full of

wife to reply

incompatibity. And there's not much anyone can do about it. (Look at the divorce rate... And what about the old millionaire and the young blonde bimbo they were nicely incompatible. He had the income and she was patible.)

Dear AUI,

Does Mr Michael Sawyer think we should all go back to 8 bit machines, as that is basically what he is saying in his letter.

Does he really think that you, AUI, probably the greatest outlet for PD in the Amiga world should go back to the past?

But the fact that the fight for competition in the Amiga magazine market is ruthless and if he were that concerned about what the future holds for AUI, perhaps he should look at how many unsold copies were left on WH Smiths shelves a few months ago, compared with how many this month.

The main factor is a few months ago AUI was a socialist magazine, you'd pick up and browse through the pages and see if there was anything you needed. Now they're finally moved up and taken on the big guns. And Mr Sawyer, if it weren't for these brilliant editors, us poor students would be resigned to playing budget games and watch the Amiga go the way of the 8 bits, down the sewer.

Now we can produce quality printing with the Publisher, create your own samples with Protracker and make amazing prints with the, only second to DPIII with Personal Paint. Without these, the less fortunate, including me, would miss out on so much.

In this world you get mags to use the cover-disk, then read the mag.

You get exactly what you

pay for.

I get AUI for AREXX tutorials, the PD scene and to read letters like Mr Sawyers who is obviously a Victorian inbred Tory.

Look around you, Mr Sawyer, it's 1994, not 1984. **Yours Sincerely**

> R. Balow Hull

Dear R. Balow. It's interesting what you say about computer magazines. It's been my conviction for a long time that they aren't the same as ordinary publications. They are the first, somewhat hesitant, steps to a multimedia world. Because I agree that readers don't buy the magazines for what they can read, but literally for what they can do - with the disks. With our limitations to DD disks there hasn't been too much that could be done, but with the coming of CD we're going to see a huge jump into that 21st Century world. And why not? It's time that we saw some real changes in the way people are affected by what they can do instead of by what they see which is what has happened with the coming of TV.

I'm not quite sure what you're on about with AUI being a "socialist" magazine. However, from the way you call Mr Sawver an "inbred Tory", it sound as if "socialist" is a compliment. I'm not certain AUI could really be categorised in a political form, but if we were, I'd think "anarchist" might be a better description of us. (Especially if you could see the state of David Taylor's desk! Not much planning there!).

Because at AUI we seem to believe that each individual is responsible for him or herself and each of us should resist being fenced into conventional attitudes that would turn us into sheep - and sheep generally end up as somebody else's lamb chops or sweaters.

Just being an Amiga user -

and an AUI reader - makes you something of an individualist not being one of the PC/Mac/ Sega/Nintendo/BBC mass. Perhaps a good dose of anarchy would do this country some good and instead of kowtowing to respectability we might all find ourselves willing to stand up for ourselves.

If we had a motto at AUI it could well be something said by a woman, Dolores Ibarriaga, who I think was a Spanish Civil War anarchist, "It is better to die on vour feet than live on vour knees." Not a bad motto for anyone.

Dear AUI

I purchased your March/April edition of AUI and took advantage of your offer to win an Amiga CD 32. I took the CD and magazine into Comet in Crayford, Kent. The assistant loaded the disk and checked for the winning elements on the disk. He tried to load Microcosm, but it only loaded the intro and not the playable demo. The screen went lime green and made screaming noises. He and another assistant said that we had won. He then took the disk to the manager. Several minutes later the manager and the assistant came out and said they had to retry the disk. This time Microcosm loaded and the demo ran and he said sorry, we hadn't won. Although I am not certain, I feel that the disks may have been swapped around. Is this possible or could there have been a fault on the CD?

I tried the CD on my friend's CD 32 before going into Comet 3 or 4 times and Microcosm still didn't load the demo and the same green screen and screaming noises occurred. The reason I feel the disks may have been swapped apart from the demo not loading is the fact that the editor's picture animated after the speaking had finished, which is now not happening.

Please reply as soon as possible as I am confused. Could the disk have been dirty?

Yours sincerely.

James Carter Wilmington Kent Dear James.

Yes, certainly the disk could have been "dirty" which is why we said in the instructions that if you had trouble with it one thing to do was to take it out and ensure that dust wasn't causing a problem.

I'm sure that Comet wouldn't have in any swapped the disk - they had no reason to do that and at the time of writing we haven't yet had winner. And we'll certainly watch out for anything from

As for the Microcosm problem, this is an odd one. If you had difficulties running it on one machine, but it ran on another, there's nothing wrong with the disc. We know others have had similar problems but we can assure you that it was tested and ran perfectly. One explanation may well be this. The earlier CD 32s seem to have had more difficulty loading the demo than other machines. It could be, though we have no evidence as yet for this, that there was some slight change in the manufacture of the machines from the very early ones. We did manage to trace a machine on which the Microcosm demo wouldn't always run and that was one of the very first Amiga CD 32s to reach this country so maybe that's it. It's still all a bit of a mystery I'm afraid.

Dear AUI

After waiting two months for your magazine to arrive in the shops, I had rather mixed feelings when I saw a CD on the cover. I thought (rather stupidly as it turns out) that the CD ROM would work on my A570 CD ROM drive. I was very annoyed when I found out that it only worked on a CD 32. I do not have a CD 32 and as I have an A570, I have no intention of spending money on a machine that over have of my CD ROMs will not work on.

I also do not like the fact that I have to travel to my nearest Comet shop (ten miles away) to get the other Coverdisk.

I am unemployed at the moment with no car of my own and very little money, most of which is spent

looking for work (buying papers, travelling to job centres, etc), so I find it very annoying when a magazine gives me a disk that I cannot use and can only exchange for one that I can use by travelling miles to a shop in which I cannot afford to spend any money so therefore I will be wasting time and money which could be better spent looking for work.

Please could you tell me why you put a CD ROM on your magazine aimed only at CD 32 owners? It is possible for you to include those of us who own an A570 or a CDTV. as I own CDPD3 and Demo2 Collection both of which work on all Amiga CD drives. I know that this is possible as they say that they are compatible with CDTV, A570 and CD32, so why couldn't you take the time to cater for ALL your readers with a CD drive.

Yours sincerely,

Mr.P.Budd

Dear Mr Budd, The reason we put a disc for use by Amiga CD 32 owners and not CDTV etc is simply that the number of CD 32s out already far exceeds the CDTV and A570s. We therefore collected material that the greatest number could use. I know if you have a CDTV or an A570 that must be annoying but it would have been impossible for us to cater to them and ignore the Amiga CD32 group.

We thought it would be a help to anyone like yourself to go somewhere close to try out the Amiga CD32 and get the other SuperDisk. We can understand if you find it too inconvenient so we have sent you the disk.

Dear AUI With reference to Superdisk 34 from the March/April 1994 issue, please help!

Even though I currently own an A1200HD and am not a CD 32 user (yet!), I was delighted to see you are the first magazine to include a Cover CD. The idea to use a CD at Comet to have a free go and doubly to enter a competition to win one of these dream machines (would have been better to win an FMV add-on as well though!)

is brilliant, except for one tiny problem - there aren't any Comet stores at all on the Isle of Wight and my chances of getting hold of the impressive looking Superdisk 34 are getting ever smaller.

Surely I can't be the only person with this problem. Is there any way at all I can get hold of the aforementioned Superdisk 34 as some of the utilities look quite useful. I look forward to hearing from you soon.

Yours sincerely,

D Nesbitt Isle of Wight

Dear D.Nesbit. We believed that the store chain was nationwide and we apologise if we were wrong. We've sent you a disk too.

Dear AUI. Who do you think you are putting a CD on the cover of the mag when no-one else has done it? The only magazine in the universe with the knowhow and guts? Yes, you are! And I think the whole idea is super. I went into Comet and though they were a bit dozy, I did get a demonstration of an Amiga CD 32 and a SuperDisk.

I think the SuperDisk well worth the journey and I even managed to persuade them to let me keep the Amiga CD! disc too. Why? Because after seeing what was on the disc and the terrific performace of the CD 32 when I get paid at the end of the month, I'm going to buy one and use your disk for myself. Keep up the good work - you're nearly as good as United!

Nick John Manchester

Dear Nick, Somebody out there loves us! Great! (And thanks to the other letters we've had saying the same sort of thing) Pity Nick you're a Man.U. supporter though. Don't you think someone with an Amiga should have had better taste? When are your flash-in-the pan team going to get somewhere in Europe? (Is it true that there is going to be a new footie CD32 title out called Galatasay?

Dear AUI, **CONGRATULATIONS!!!** Why? For being the only magazine to actually commit

yourselves to catering for the info starved CD32 users out there.

When I said "damn the critics!" and went ahead with a major hardware purchase (of said wonder-machine naturally), I had no idea the software companies would show such pathetic reticence in providing us, their source of wealth, with software to be proud of. Imagine my disgust when my favourite magazines showed similar hesitation to provide in depth reviews, news, updates etc.

O.K. so to begin with there wasn't exactly much news to tell, but now there's more than enough going on in the CD world to justify a standalone magazine, never mind the scraps of mis-informed prejudice we're now accustomed to.

I was exstatic when I learned of AMIGA CD! and it seems to be exactly what we've been waiting for.

To find a cover mounted CD with such delights as the awesome Microcosm is a dream come true!

Let's hope the other magazines take note of your dedication providing what the readers need and stop telling us that a cover mounted CD is too expensive, or more unbelievably, that "There just isn't enough stuff around to make it a viable option."

Roll on issue 2, you've definitely got a fan here! Yours in anticipation, **Paul Loughrey**

Dear Paul, I'm glad you're "exstatic"!

(Though perhaps we should try to get Commoodore to include a spellchecker in the next version of the Amiga CD 32!) We've got to try to keep up the standard for you to go on being "extstatic" about future issues of the "the world's first intercative CD magazine for the Amiga". We love that phrase here. No matter what happens, nothing is ever going to change that! Someone even suggested that we put it in to be included in the Guiness Book of Records, but it's not really a "record", because there's no-one to compete against.

From what you'll see - at the time of writing I haven't seen it yet so I'm hoping what they tell me is true! - on the Amiga CD! disc on the cover of this magazine, you should be even more "exstatic". Enjoy!

Dear AUI, Please can I have your CD coverdisk? I enclose the neccesary amount. When are you going to make a French version?

> Jean-Marie Audran **Asnieres** France

Dear Jean-Marie, Je ne sais pas! But there is no reason why we shouldn't include a

French version of the voice overs - if we can find someone to translate them for us. The other stuff is pretty international. You don't need to understand the langauge to play the games and you're better off just being blinded by Ashley Cotter-Cairns shirts than listening to him!

Send your letters to: Write to Reply AUI **Amiga User International** 48 George Street, London Will 5RT

If you wish to send an Email letter to Write to Reply or Amiga Answers, AUI can be contacted on CIX as Amigauser@compulink.co.uk



Dear AUI,

I have a mystery for you to solve. For quite a few years I have been using Scribble 2.0, - the early version - and a Panasonic 24 pin printer. As you probably know the old Scribble never printed out pound signs. It was a hash on the screen and that's what it printed out. I got used to it and it didn't worry me.

A friend of mine who I haven't seen since came round one day and changed my Scribble so that I got a hash on screen but a pound sign when it was printed out.

Recently I thought I would change my printer and decided to buy a Citizen Swift 240C. I went round to try this printer at a friend's place. He has a 500 plus with a GVP A530 Turbo attached. You can imagine my surprise when I found that using my own Scribble - the same disk - it wouldn't print out anything but hash signs for pounds.

This really puzzles us. Why should my Scribble work perfectly well in printing out on my unexpanded A500 1 meg 1.3 (in a Checkmate 1500 case) pound signs on an old Panasonic 24 pin. and not on a new Citizen 24 pin?

I'd be very grateful if you would solve this mystery for me and tell me if I buy the Citizen I can get pound signs again and not hashes.

> Gordon Underhill Watford

Dear Gordon,

The problem is easy to answer, but complex to solve. The problem all comes about from the mapping of the keyboard to the characters that they produce. There are a few things in combination that can get things confused.

Printers are designed to a de facto standard (Epson) and also to an ANSI standard. On top of this there are often special features such as HP's PCL (printer control language). Printers are also

Answer Types Programs etc] Video related problems Communications **Programming** Operating System Printer Problems Cover Disk For anything else

designed to work in many different countries, and the DEFAULT is USA (the biggest market).

The next problem is the Amiga is also designed to work in many different countries, the default...

The software is designed to work in many different countries, the default ... USA, gets monotonous doesn't it?

What you have to do is normally fairly easy but you will have to keep a careful note of what you are doing. First sort out the Amiga. The keymap program is the prime utility to use. You need to ensure that the UK keymap is loaded. You may have to copy the UK keymap file from your extras disk onto your boot disk.

Next set the wordprocessor up to UK standards as well. (Scribble should pick up the keymap automatically so in your case you should not need to do anything, but other WPs may well have their own keymaps built in).

Lastly set up the printer to use the UK (sometimes GB character

Get all three in line and you should see £ on the screen, and on the paper.

Dear AUI. Prior to purchasing my Amiga 500+ a couple of months ago I had an Amstrad 6128 on which I wrote a database program to catalogue my audio cassette library. After running the program I had about 28K memory remaining free from data storage which was only enough for about one third of my library.

This tempted me to buy the Amiga with its colossal 1 megabyte of RAM and which I thought would be more than adequate for my needs. I transcribed my Locomotive Basic program into GFA Basic and set the array to 5000 fields. There are 7 fields to a page so I expected to be able to accommodate about 700 pages. Great!

After running the program I found that fre(0) gave only about 21K free for data (a page on average takes just over 100K {I think you have your sums wrong here-Andy}) To optimise on memory, I tailored the DIM to 25000 fields which gave me 36K and allowed me to fill 350 pages before running out of memory, still not enough.

I was then tempted to purchase an additional 1 megabyte of RAM only to find to my surprise and disappointment that after inserting the board I had exactly the same amount of free memory as I had before.

Is there something wrong? However, it does seem to be doing something such as copying a disk is now performed in one pass and a disk which previously would not load consistently now loads every time.

I am also puzzled by the Workbench 2.0 title bar showing over 1.8 megs of Graphic RAM but zero other mem.

Is this correct?

I am looking for about 20K of extra memory for data storage. Can you suggest any means whereby I can squeeze this out of the system or am I doomed to failure.

I have arrived at the Amiga via a ZX81, Oric Atmos and Amstrad 6128 and find the Amiga to be much more difficult to deal with. I am interested only in



programming in Basic for my own amusement and as a challenge to my mental faculty. I find Workbench (mine is V2.0) hard going at 78 years of age. New

tricks do not come easily to an old dog! I can format and copy disks through the icons menu, drag icons, delete icons, set the clock and put it into WBstartup and a few more manoeuvers, but fail hopelessly in the use of the Shell.

For example, when I enter the following commands

Diskcopy DF0: to DF0:, or Format drive DFO:NAME **EMPTYDISK**, or Install Name of disk, all fail with the meaningless (to me) comments respectively:

Error on from disk. Cannot open DOS device.

Wrong Number of arguments Object not of required type. Install failed.

The only command I have found it to respond to sensibly is endshell!

> Mr. G Thomas Mid Glamorgan

Dear Mr. Thomas,

Your reasons for programming are about the best I have heard to date and I agree that the Amiga is a rather complex machine. In fact, I would say that it is the most complex computer currently available to the home user, INCLUDING all the IBM PCs, Acorns etc. The operating system is more like that of a mainframe computer than anything else.

Basic, well, yes, it can be a bit of a pain sometimes. The clue that you need to look for is the WB memory. I bet that with 21K free according to GFA, you actually have a few hundred K free from Workbench.

The problem is in the methods that Basic allocates memory. Most Basics were designed for 8 bit machines, with a 16 bit address range and this give 65K(ish) of accessed memory. Some of that memory is used by the system, so quite often you only had 32K or so of RAM to play with.

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AUI ANSWERS

I'm not familiar with the inner workings of GFA basic, but in Amiga Basic (not too well thought of, but had its uses) the default size of memory was indeed 32K; what's more you could change this default size to something bigger as required. In AmigaBasic the CLEAR command is used to allocate as much memory as needed (limited by your Ram) I would expect that GFA has a similar function. i.e. CLEAR, 100000 will give you 100K of program space to play with.

The other thing that you should think about is not using too much memory in the first place. The way to do this is by using data files on disk. This is not too quick on a floppy system, but with a hard drive it becomes the most effective way to do things.

The Amigas memory is divided into several types. The main two are Chip memory and Fast memory. Due to the way that the Amiga is designed internally, Chip memory is RAM that the CPU AND the special custom chips can access. This memory is special as the custom chips have priority access to this memory, e.g. the video display, the blitter (this moves the sprites about) etc. Because of this, using chip memory actually only holds the processor up. Unless you are very critical, in normal day to day use this slow down is only a few percent. Fast memory on the other hand is memory to which that only the CPU has access. This means, (and remember that the Amiga is a multitasking computer), while the custom chips are accessing the Chip RAM, the CPU can access the Fast RAM at full speed.

The A500+ can access 2Mb of chip RAM only. (more than enough for most uses) As you expand the memory above this limit, the extra memory will be Fast RAM.

The shell, well I find it very easy, but I trained on machines that ONLY had a shell type interface. You are almost there, it is just a few command formatting errors that you have made.

The diskcopy command should work as you have typed it, but remember to type a ZERO as in DF0:

The syntax for format is: format drive df0: name freddisk note the space between df0: and the keyword name.

In your case the Amiga was looking for a disk called Name, which confused it.

The install program does not know anything about disk names. Just type Install DF0: and the boot sectors will be written to any disk in the drive. Be careful with this as

many disks have special startup codes on them that will be destroyed if you install a disk.

> Other commands to look into are: CD (change directory)

CD / move up the directory tree one level

DIR list the current directory LIST a more informative form of DIR



Dear AUI.

Having recently purchased a standard A1200 with a second floppy drive I invested in AUI both for its excellent disks and their utilities and for the care in the given explanations. I am deeply grateful to Selwyn Flynn (AUI Oct & Dec 93) for asking questions to which I also wanted answers they helped a lot.

My questions:

1. Superdisk 26: I have got W/ B games loaded up to a disk by dragging from RAM; however, some don't work and I get the system request needs ARP.lib. There doesn't seem to be one on the disk nor in WB 3. Can I use the Arp.lib from Superdisk 29?

2. Superdisk 29: New installer looks and feels easy to use, but doesn't work for me! I can put programs and libs to RAM even making the drawer icon, but there's nothing in the drawer when I click on it. What am I doing wrong? I've tried transferring both program and libs to a separate disk in case it was reading libs from booted disk as per libraries entry Dec 93 but still nothing. HELP!

3. In Diskmate (Dec 93) there is talk of speech synthesis; my friend's A500 has this in the W/B but it is not in the WB 3. Could this program be included in a future superdisk? I'd like to program my machine to ask 'Who is there' on boot up and 'Hello

ready to go. Code using a code I could list which of my children have played on the machine while I am at work. Is this possible?

Lastly a small suggestion, when you list the Superdisk programs and give a brief description of the functions, could you start by naming the archive and the required libraries to run it instead of a pure archive list?

> S.P.Horsley Humberside.

Dear S.P.Horsley, Yes the ARP library on Superdisk 29 will be fine. This is also the answer

to your second problem. The unarchiver program is looking for ARP.library, not finding it and bombing out without unarchiving the programs. You need to copy the ARP library to YOUR libs: directory. You can do this manually or use the installer. To use the installer unarchive a program, any one as it will fail anyway and then enter the copy libraries section of the installer. Select yes to copy libs and then click on the box next to ARP.library. Change the path FROM RAM: to libs: and then click on continue. That should put things to rights. The next time you run the installer everything should be fine.

Future coverdisks will use a new edition of Lha that does not need ARP.library.

As for the speech in Diskmate, all Amigas can utilise their sound chips to generate speech, however there was a problem with the distribution rights for the narrator.device (the software that gives the Amiga its speech capabilities) and it was not included in the WB3 software. It is a copyrighted program, so it is unlikely that it can be included on any coverdisk.

What you want to do is possible, but without an auto booting hard drive there is no real way of ensuring that the log on codes will be used. Many programs such as games come on special auto booting disks that will bypass any such logging process.

Good points about the Coverdisk listings... We'll note it for future reference.



Dear AUI,

I have just changed over to the Amiga A1200 after many years with an Atari ST and am very pleased that I've done so.

My first attempts at playing Monkey Island 2 from hard disk aren't going too well as I cannot get it to load up. I followed the installation instructions with no apparent problems, but no joy. The game works OK when booted up from floppy disk. I have heard that this game will not work on an internal IDE Hard Drive, please tell me this isn't the case.

> **Peter Bardon** West Yorkshire

Dear Peter,

This game runs on a hard drive without any problems, but we have not been able to test it on an A1200. It sounds as if the program may be objecting to something that your

normal hard disk boot up is doing. Try removing EVERY program that vou automatically load on startup. Especially in the WBstartup drawer. Quite a few programs object to screenblankers and such like.

US Gold say that the game will run on most A1200s (around 90%), but that there are a few machines that cause problems. The only hope is to disable all the options except the hard drive when you boot. Simply hold down both mouse buttons as you turn on and go through the menus disabling the necessary. Boot the machine and your problems may be over. If this does work, you will need to do this every time you want to play the game.

Dear AUI,

I have recently purchased my first Amiga computer in the form of an A600 to which I have become very attached to.

I would be very very grateful if you could answer a few questions for me.

Firstly I like the music on some of my games so much that I sit and listen to the music sometimes longer than I play the actual game. You may think that I am a very sad lad for doing this but it is just the way I am, if it sounds good I'll listen to it. Anyway I was wondering if there is a program available that would allow me to remove the music data from said games and store it in a format playable by a module player such as STP you featured on Superdisk 25 so saving me from having to load a complete game just to listen to the soundtrack.

Secondly I own a Citizen Swift 200C colour printer for which I purchased a Tee shirt printing ribbon for. Do you again know of a program that will allow me to dump games screens to my printer as a few of my friends would like me to customise their old plain white Tee shirts for them?

Thirdly is there anyone out there that makes an add on for the A600 that can allow it to use A500 accessories such as accelerators or Datel Electronics Action Replay cartridge or should I buy a cheap second hand A500 and perhaps solve some of my problems, although this is not my preferred option?

Lastly can I get a 1.3 ROM sharer fitted to my Amiga without blowing my warranty?

I should point out that I have no knowledge of Basic or machine code so if there are any programs available the simpler they are to use the better.

> J. Eardley **Shropshire**

Dear J. Eardlev. I do know that there are sound 'rippers' available, namely the Action Replay cartridge that you mention. They require a fair degree of skill to use however. Also it is worth knowing that many games encode the music in a totally different way, depending on the whim of the programmer and the space available on the disk. A program may not be able to find the music at all

If you enjoy the music, I would suggest that you start to investigate the various PD libraries that are about, they will have lots of music for you to listen to.

The dumping of screens is a little easier, PROVIDING that the game multi-tasks within the Amiga. There are several utilities that will, when you press a special key combination dump a screen into a standard Amiga IFF file form. This file can then be edited and printed with just about any Art package you care to

Programs of this sort are GrabIFF, Grabbit, but be very careful, as it is now very common to find that such utilities are WB3 or above only. From reading the Docs, QuickGrab (AUI Superdisk 25) should work on your system.

I don't know of any generic adaptors for the A600, there are versions of some products that are available for the A600, but not too manv.

It should be possible to fit a ROM Sharer, but Why? I do have one fitted to my A2000, 'just in case', but I've not used it for months. (The only program I have that needs it, also needs WB 1.2! It's a C64 emulator product that also happens to allow a C64 disk drive to be connected to the Amiga, which makes transferring data from the C64/C128/PET systems fairly easy)

Anything that you fit inside the A600 will blow your warranty. It is NOT designed to be user serviced. If you do fit anything the risk is vours.



I have two hardware problems and since I have tried everything I can think of, I hope you can solve

I have been given a 150Mb Conner hard drive, which was previously used with a PC. What I want to know is how can I connect it to my A1200 and where can the correct cable be sourced from? The drive has seven possible connection sockets. It seems to be an expensive piece of kit, so I hope I can use it, even though I think it will have to be external since it is fairly big.

Also, I have been given an **Epson RX80 F/T printer with cable** and manual. By following the instructions I have set the dip switches except for ones on an extra piece of circuit board not mentioned in the manual. I've set my printer driver to Epson.old and I've altered my startup sequence so that the WB3.0 hard drive Orientated bug doesn't affect it. (The one where it asks for volumes instead on looking in the devs drawer during startup.) And after all that when I try to print all I get is a printer trouble message when I try to print text. The printer has a self test feature which makes it print the whole character set, so it is willing to print. I have tried phoning Epson and they were not very helpful.

Robert Foxx Colgrain Scotland

Dear Robert.

I can't help too much on the Conner drive. I do not have a full list of drive types. You will need to contact Conner directly, or perhaps the friend who gave the drive to you. What you need to find out is what type of interface the drive has.

I am surprised that you say the drive has seven connectors. It should only have two, the main multiway connector normally at one end or the circuit board and the power connector.

The other connectors that you mention may be header sockets that are used for configuration. If the drive is a SCSI interface, then some of the other connectors will be for the terminating resistors that such drives

The A1200 has a built in IDE interface that is designed for 2.5 inch hard drives. It does not have the power to drive a long external cable. So it is unlikely that mounting this Conner drive externally is going to work with the built-in interface. External hard drive interfaces are starting to appear on the market, so that may be the only route open to

The printer, well, you have done just about everything. Have you checked to see if preferences is setting the printer to use the parallel

interface rather than the serial?

AUI ANSWERS

This extra circuit board on the printer worries me. Does the printer have two connectors on the back? If so you might have both a serial and a parallel interface. You need to find out what the model of the circuit board is and then contact Epson and give them that information, they may be more helpful then. It may be that just by removing this extra board the printer will revert to parallel mode only, but you need to check this with Epson. One last point, ensure that vou use an Amiga Printer lead rather than PC one. Non-Amiga leads can cause all sorts of problems.

OTHER

Dear AUI, In a few days time I should be the proud owner of an A4000/030 with 6 megs of RAM, 340Mb Western **Digital Hard drive and Microvitec Cub Multi sync monitor supplied** by First Computer Leeds for the sum of £1649. I have also on order

Prior to this I have been poring over computer magazines both Amiga and PC (IBM) in an effort to determine the most efficient way to realize my dream machine.

an Acad 2000 software package.

My first computer was the ZX81, then the Spectrum 48K (c/w piggy back chip) and then the QL, which believe it or not I found to be a real Quantum leap, but alas Pandoras box turned out to be the C5 and the demise of Sir C Sinclair, in the computer world at least.

I have followed the various incarnations of the Amiga over the last two or three years in parallel with the PC. It would appear outwardly that the PC has caught up, multi-media wise with the Amiga, but despite the wide range of software available to the PC it still cannot multi-task or manipulate its environment with the ease that Workbench does on the Amiga.

I work for an engineering consultancy as a senior vessel engineer designing Petro chemical plants etc. In the office are numerous PC clones networked together, both LAN and ethernet including Silicon **Graphics workstations, running** P.D.M.S and Auto Cad software.

My original intention was to buy a portable PC 486 DX notebook, but although the idea of portability was alluring to me it was only one format, plus software was very expensive, scratch one. Option 2 - buy an Amiga; problem - which Amiga?

My first impulse was the 4000/040 but unfortunately Commodore's problems in the States combined with the launch of the CD32 has meant that the 040's are in short supply and may appear later in the year. (I hope the CD32 proves better than the C5). Not to be deterred, there is always the A4000/030, or the pretender to the throne in the form of the A1200 equipped with accelerator and a full blown 030 running at 50 Mhz + SCSI interface and AGA chip set, but limited expansions, so the A4000/030 it is.

My dream machine would comprise an A4000 box capable of running Amiga Mac and PC software including the occasional game. To reduce the number of boxes etc. I am looking at using the Emplant board to house both the Mac and IBM chips together with a 24bit graphics card. BlitterSoft recommend Picasso II c/w 2Mb of on board memory. Also I understand that Software Demon will exchange the daughter board and front panel on my A4000/030 for the equivalent 040. I want the above cards to use the Amiga's memory and hardware where possible. Ideally the software must multi-task, the type of software would be Acad word processing spreadsheet. animation and 3-D modelling. So given the above and my current set up using an Amiga A4000/030, my questions are as follows:

1) Should I use Picasso II 24 bit graphics card with 2Mb of memory including R.T.G. or should I use the Retina card.

Is the Harlequin standard compatible with both the above cards?

What is the advantage of RTG, come to think what is RTG?

Is the Picasso II card OK for Autocad, Acad 2000? Will it make Windows 3.1 go faster, if not which card would you suggest?

- 2) With the Emplant board, please list what is required to make it emulate: Mac. PC 486 and is an MMU required?
- 3) I've spoken to Blittersoft, the people who supply the Emplant card and they tell me that soon they will be supplying a 'clean room' version for the IBM PC as an add on module.

What do they mean by 'clean room' version?

I have read in various computer magazines that the PC version of the Emplant will never work is this true?

Is your magazine going to do an article on the Emplant card?

AUI ANSWERS

4) Are there any other boards that will emulate IBM PC 386 or 486 which will take full advantage of Amiga memory and hardware without having to populate individual cards with expensive memory chips?

Will the Vortex board do above and multitask emulate extended memory etc?

Software compatibility: Will Vortex run Windows 3.1?

Is an FPU supplied or can it use the Amiga's?

Is an MMU required on the Amiga for Vortex to multitask or is this not necessary?

5) I know I can upgrade to an 040, but can one get an 040 clocked at 33 or 50Mhz Does an FPU when fitted have to be the same speed as the processor? Also does an 060 exist or is it myth, if not how can one get hold of one?

6 Given a multiprocessor machine, which is the best way to partition a hard drive, with a hard or soft partition? What are the relative merits of each?

In a nutshell I want a computer which inside one box will multitask Amiga, PC and Mac software at a speed and compatibility close to that of the respective original machines, where possible the emulators must use Amiga drives and memory and take advantage of any graphics cards etc. available to the Amiga. I would be grateful if you could take the time to answer some if not all of the above queries as impartial or practical advice is hard to come by.

John Hanrahan Manchester

Dear John,

Phew! What a can of worms you are getting into.

Firstly you are NOT going to achieve anything like the system that you want. You will be able to get a degree of compatibility, but it will be a compromise all the way (except with the Amiga side which is the native machine).

All of the 24 bit cards are very specialised. I expect that it is possible to convert between some of them but not all. Why do you want a 24 bit card anyway? AGA graphics are very good as they stand and generally you would only use 24 bit if you need to produce broadcast quality output.

RTG, well Retail Traders' Guide perhaps? Probably it is ReTargetable Graphics, which is a system where the graphics will be able to use whatever is available to them, they will auto scale, colour, use

graphic processors etc. It could be none of these, just an in house TLA.

Old programmers joke coming up. The only way to speed up Windows 3.1 is at 9.8 m/s^2. The speed of Windows will depend entirely on the emulation method used.

Emplant, this is easy - for Mac you need the Mac module and for PC the PC module (when available).

MMUs may be required - it depends on the techniques employed. It is impossible to be precise at this time.

A clean room version of an emulator... this is a method of design that is necessary to avoid copyright infringement. You will no doubt have heard about the long running law suit between Intel and the other 386/486 chip manufacturers. In a clean room design you can prove that no source code or design details of any part of the original is available to the designers. All they have is a written specification that they must follow. This is to insure that the original manufacturer has no grounds for a lawsuit.

As emulators already exist for the PC I expect that the Emplant unit will work, but - as always when a product is not yet available - watch

A review of the Mac version of the Emplant should be ready very soon.

There are a few other PC emulators, Commodore do one called the Bridgeboard. This is a PC on a card, but it cannot use the Amiga's memory etc.

The Vortex as you mention is another emulator. You will have to contact the individual suppliers and get the specs of each unit to determine what it will run and what it will use on the Amiga.

I think that you are being a little naive with your comments about the FPU. NO PC software can use the Motorola FPU, the codes are completely different. However there is nothing stopping the emulator software making use of one but that is down to the designers of the emulator.

The Amiga does not actually use an MMU, in fact the OS is not designed to make efficient use of one, due to the shared library system that the Amiga uses, this rather defeats the object of memory protection. An MMU is useful for virtual memory programs such as Gigamem and for debugging tools such as Enforcer.

There are third party 040 boards that clock at 50Mhz available. An FPU can run at a different speed to the main processor. You need to supply the correct clock. Normally it is more convenient to clock the processor and the FPU at the same

rate. On the 040 the FPU is internal, so there is not much point in an external FPU.

The 060 will probably be the last in the range of the high performance complex instruction set processors from Motorola. The next logical step will be a RISC based system.

The 060 is in development and some silicon may be produced sometime, but only Motorola knows when or even if it will be made available. More likely they will jump straight the much heralded PowerPC chip that they are developing with OBM and other bigtimers.

There is no such thing as a soft partition, hard disks are partitioned when you first set them up and that's it. There is a way of using very big files as pseudo partitions, which may be what you mean by a soft partition, but they are generally much slower than an proper partition.

I now have to make a very general statement that you MUST take heed of. An emulator is just that. It emulates a different hardware and software platform. It is therefore unlikely that it will be able to run all software that is available for the platform that it is emulating. You have to be very careful.

COVERDISK



Dear AUI. I am having problems with RDS on Superdisk 28.

> Arthur Baker Cornwall

Dear Arthur,

I've not printed your letter in full, as the problem is with RDS and with the version of Lha on the Coverdisk, not you. RDS does not work from the icons for some reason. It works fine from the CLI however.

In order for things to start working you need to copy the file ARP.library to your libs: directory on your hard drive. The easy way to do this is to run the Installer program, select a program to install as normal RDS is as good as any. This will not work this time. Select "No" for no more files and then select "Yes" to install the libs. Click on the ARP.library checkbox and when asked ensure that you set the path to libs: (rather than the default of ram:) This will copy the ARP.library to where Lha can find it.

Run the Installer again and everything should work fine, and RDS will uncrunch without any problems. In future Coverdisks the version of Lha used will not require the ARP library, as the Amiga Replacement Project was

abandoned some time ago.

The next stage is to get RDS running. The doc files don't say it all, but in short the commands are:

RDS filename UNRDS filename

where filename is an IFF file or an RDS file respectively.

COVERDISK



Dear AUI.

Re Superdisk No 30, Can you help me with a problem . First my equipment consists of an Amiga A500 Plus with 1 Meg upgrade and a GVP Impact Series II hard-drive with 3 partitions.

I have followed the instructions very thoroughly time and time again and keep on getting the same result, i.e. a new drawer in any partition I wish but no dearchived programs in them.

> Mr. H.Foster Lancs.

Dear Mr. Foster,

Your problem is the same as Mr. Baker, the version of Lha on the Coverdisk requires the ARP library. If you know how, copy the ARP.library file from the Coverdisk to your libs: directory, if you are not happy doing that, run the Installer, try to unarchive a file (this will fail) and then select "Yes" for the library copy section of the installer. Click on the box next to the ARP library and set the path to libs: then select continue.

When you next run the Installer everything will work correctly.

When writing to Amiga Answers include as much information as possible about your system and about which software/ hardware you are running. This will help to determine what your problem might be and its solution!

Send your questions to: **Amiga Answers Amiga User** International 48 George Street London W1H 5RF



Maybe that's why they're extinct

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AUI ANSWERS



Dear AUI,

I own an Amiga 600 and have acquired second hand (from a bankrupt company) a printer (Fujitsu model M3330D from 1986/ 87) which will not print.

I have connected the printer using a standard parallel printer cable with the correct connections. When using Wordworth software using shift and F5 to print, the message on screen is "printer trouble: make printer on line". At the printer the far left hand (power) is on and the next 3 lights to the right all flash. These lights are labelled 1 op check and 2 op check and then

I have tried various paper loadings and switching on orders to no avail. Please send me some advice!

> **Luke Plaice** Southampton

Dear Luke,

I expect that there is something wrong with the printer. What does the handbook say? You have the handbook I assume. If not, here is a very general warning:

NEVER BUY ANY COMPUTER **EQUIPMENT WITHOUT THE** HANDBOOKS/MANUALS.

One thing that might be worth trying is to load up some paper, switch off the printer and then hold down the Line Feed button and switch on. This normally starts a printer self test on just about every printer that I've ever used.

All I can say is check that you have set up the printer preferences to use the parallel port and that the printer lead is an Amiga printer lead. Other than that the printer is the likely cause of the trouble and you will have to try to get hold of a manual to find out what the indicators mean.





Dear AUI

I am considering upgrading from the A1200 to an A4000/EC030. The problem for me is that my A1200 has the GVP A1230 accelerator fitted with a 40Mhz EC68030 CPU and 40Mhz 68882 FPU with a total of 6Mb RAM. My Amiga 1200 consists of an 127Mb internal **HHD, Power Computing XL** external disk drive and the A1237.

I am wondering if it is possible to purchase the A4000 without

either the CPU or the hard disk and only 4Mb (more RAM would be nice) fitted.

I am hoping to remove the CPU and the FPU from the A1230 and fit them onto the Daughterboard of the A4000. However, there is a problem that I am aware of and that is my current hard disk is a 2.5 inch and the A4000 is 3.5 inch, does this matter? Can a smaller size be installed?

I feel that this is my next step for my Amiga system as the A4000 comes with an internal High Density disk drive and has three PC style slots (are they AT bus, XT or better VESA bus?). Can a CD Rom drive primarily meant for an MSDos based system be used in the A4000 or would there be a software driver problem?

The reason that I want to do this is because I am heavily into DTP and I use Gold Disk's Professional Page 4.1 and I wish to access font libraries off CD ROM. I can, however, get the same fonts onto disks, high density disks!

Another query that I would like to make is that I want to know whether the PC Soundblaster Pro or better Pro Audio (many in CD Rom packages) would work on the A4000. I have no intention to play games on my A4000.

Is it possible to have two printers connected via the parallel ports, i.e. one port connected to a postscript printer and the other connected the Fargo Primera printer? Is this what ParNet is all about.

My final question is about the future of the Amiga, would it be possible to install Microsoft's Windows NT onto the current A4000/4000T. I understand that this would need the system to be RISC based and would there be an upgrade option available.

> Jamie Johnson Leigh-On-Sea

Dear Jamie,

I can't help but think that you are making the wrong choice of computer to upgrade to. The A4000 is a fine machine for expansion but the EC030 is no better than the system that you are currently using. I would very strongly suggest that you go for the A4000/040 as that will give you a significant processing power boost. You will find that it will be more economical to sell your GVP unit and use the funds from that to get the 040 A4000.

The same goes for the hard drive. I expect that someone will make an adaptor to convert the 2.5 inch connector to the same format as that on the A4000, but other than that there is no reason why a small drive should not be fitted to the A4000. A few years ago it was common practice to fit 3.5 inch hard drives into 5.25 inch drive bays.

The A4000 is equipped with Zorro 3 expansion slots. These are the Amiga standard and have nothing to do with the PC. There are other connectors that will, when linked by a bridgeboard, become PC AT slots, but they will still be connected to the bridgeboard and not the Amiga.

Using a CD ROM on the A4000 is possible and it depends on the type of drive fitted to the PC that will determine if it can be connected to the Amiga. If the drive is a SCSI drive, then there should be no problems. You will need a SCSI adaptor for the A4000 in order to fit the drive.

It should be possible to fit a CD drive to the parallel port, but as you suggest the driver software is a problem. I've never seen any, so I doubt if it can be done.

The Amiga audio is just as good as the normal Soundblaster cards so there is little point looking for a way of using them. As it is not possible, it is just as well that the Amiga has a good audio output! There are cards that will give even better quality audio, but I need to know what you want to do it order to progress this point any further.

Just a word of warning: NO PC EXPANSION CARDS WILL WORK DIRECTLY ON THE AMIGA.

Two or more printers, no problems. There are two ways of doing this. The simplest is a switch box. You twist a knob to select the required printer. It is also possible to get extra serial and parallel ports on Zorro cards. You can then switch using the Preferences, Another option that might be worth looking into is that if one of your printers has a serial port, then you could use that and use Preferences to toggle between the serial and parallel ports.

ParNet is a method of connecting two Amigas together via their parallel ports. It allows a simple peer to peer type network to be formed. It's a bit slow (approx. 50Kbps), but it is very, very useful.

Your last point is pie in the sky. There are no plans to do anything with Windows NT on the current Amiga range. NT does not require a RISC system, just a special interface layer of code to take care of the standard I/O that is needed and then the NT system to be compiled for the particular processor concerned. The idea behind using RISC processors is to EMULATE a particular

processor system to such an extent that the software believes that there is a real processor there and thus eliminate the need for a recompile or rewrite.



Dear AUI

Our school has been given a **Commodore CDTV package** consisting of a CD unit CD1000, External 3.5 inch drive CD1411, Mouse CD1253, remote unit and keyboard CD122. The manual states A500 and there were two disks, Workbench & Extras. This outfit is connected to a Philips colour monitor.

Using the the CD side of this is no problem, but we are not having much luck with the computing side of it.

If I could get working I would be interested in wordprocessing and DTP, datacomms and spreadsheet at primary school level. Bearing in mind that money is in short supply which software packages would you recommend? (I have been brought up using BBC Master 128/A3000 computers, but this outfit baffles me! Do you have any old software packages that we could try please!)

Bruce Russell Clwvd

Dear Bruce,

The CDTV is an Amiga A500 computer with a CD Rom drive fitted. The addition of a disk drive and a keyboard effectively turns it into an A500. Connect up the drive, mouse and keyboard, put the Workbench disk into the drive and reboot the CDTV (hold down control Left Amiga Right Amiga at the same time). The CDTV should reboot from the floppy. You will then get the standard Amiga Workbench. COPY your Workbench and Extras Disk right then, just in case of problems.

If you get the superb CDPD collection of software on CDRom from Almathera Systems Limited (081 687 0040), you will find software for just about every application you care to name. I think that there are about 3 CDs in the collection now and they are very good value for money, about £20 each.

Be warned however, the new CD32 software will NOT work in the CDTV. However, some that is being re-issued for the CD32 is no different from the CDTV Version.

AUI ANSWERS

Dear AUI.

I live in Jordan where you can't get anything for the Amiga, because there is no dealer for anything related. Despite this, some people (around 300) do have machines brought from the UK. Interestingly, our national broadcasting service uses Amigas for all the graphics on TV.

I have a lot of questions which I'd like answered, but I've singled out a few and would be grateful if you could answer them for me:

- 1) What kind of Amiga should I buy, considering that my budget is £1800 and I would like the use of the 486 DX and Quadra 700 emulators to come from Emplant?
- 2) Can these emulators run everything that the PC and Mac run without any compatibility problems? If so, at what speed?
- 3) Which emulators can you recommend?
- 4) What is the best cartoon animation package?
- 5) Do you know of any European or US clubs that allow international membership?

I would like to see more of the following in AUI: technical, graphics, 3D and computer art. What about a budget upgrades section or build your own? I hope that you can answer my queries and that you will take into consideration my suggestions. Abdur-ruhman Ramadan

Dear Abdur-ruhman,

I would say that you will have to go for the A4000. The 040 is worth the extra as far as I am concerned, but it will depend on the import taxes and such like if you can afford it within your budget.

No emulator will ever be 100% compatible, as it is impossible to test every piece of software with every emulator. The speed will be as fast as the manufacturer can make the emulator work. It will also be dependent on the type of emulation. Hardware assisted will be faster than all software. As the PC version is not available, I don't know what speed it is likely to work at. The only thing to do is keep an eye out for a review when the unit is released.

I don't recommend any emulators. I don't know what you want to do with them or what you expect. I find that the old XT bridgeboard is all that I need, just to copy a few files from low density 5.25 inch disks, but that's all I use it for. If you want to run anything fancy, then I'm afraid that you will have to

do a bit of investigation yourself. The best thing to do is write out a list of questions bearing in mind what you want to do and what software that vou are likely to run and ask the respective manufacturers of the emulators if their product will support your requirements.

The best cartoon animation package is the package that is used by a person with the talent to draw cartoons! I would say that the actual animation package will not vary too much, but you will need a good art package such as DPaint or Personal Paint. Make sure that the package has an onion skin, or a tracing paper function. This allows you to see a previous frame beneath the one that vou are currently drawing. This makes it much easier to work with. Disney Animation Studio and MovieSetter are a couple of products that you might like to investigate.

The Independent Commodore Product Users' Group has a worldwide membership, contact the membership secretary:

> Jack Cohen P.O.Box 1309 London. N3 2UT

for more information.

Thank you for the suggestions, its always nice to get some feedback from the readers and you can be assured that all suggestions, whatever they are, are considered very carefully.

COVERDISK



Dear AUL

I've recently bought AUI for the first time and I'm really enjoying it. BUT (Ah, there's always a 'BUT'. Sigh! - ED) I am very disappointed by Superdisk 29. I was expecting great things of Clouds, Biganim and especially Mand2000. Unfortunately it doesn't work on

mv Amiga.

My configuration is A500 with 68010 512k chip, 512k fast, no hard disk, no external drive. I was following instructions. I decrunched programs to RAM and the copied them to disk. After that using file master, I copied all dirs / libraries, but I can only run lovehearts, Pickansi and Spread. Of course, compatibility, but you wrote the only answer is to upgrade to Kickstart 2.0. Still nothing changed. Then I went to my friend and on his A1200 everything worked. I don't understand it. Can you tell me what I an doing wrong?

> **Martin Sikora Poland**

Dear Martin

Well I understand what is going on... it's a slight problem with the libraries and the version of Lha on the Coverdisk.

You need the ARP.library in your libs for things to work. Copy the libs on the Coverdisk using the installer to your libs directory. The other thing that you can do, and in your case it will be the simplest, is to BOOT directly from the Coverdisk. Everything will then work.

SUPERDISH



Dear AUI, RE superdisk 29:

Many attempts to transfer the disk programs to the RAM: disk or another floppy have all failed. Log files and libraries transfer OK. Install routine seems to decrunch OK, but does not copy program to destination, although display tells me it has done so.

I have tried coping all libraries first to ram:libs and then rerunning the install routine without any luck. Suspecting a defective disk I sent it off as instructed in AUI and have only just received its replacement. I still have the same problem.

> Mr A. Farnie Somerset

Dear Mr Famie, Your problem is the same as everybody else with this disk, the Lha program needs to find the ARP.library in your libs: directory. Use the installer as before, uncrunch a file, this will not work. Select Yes to copy the libs, select the libs to copy and set the path to libs: and then select continue. The installer will copy the libraries to where they are required.

When you next run the installer. Lha should pick up the correct library and decrunch the programs.

COVERDISK



Dear AUI.

I am 67 years old and have only discovered the world of computing during the past five months, so please bear with me. The reason that I bought my A1200 was primarily to keep the 'grey cells' functioning but, to press, I do believe it's had the reverse effect. The main contributory factor could be trying to de-crunch some of the cover disks from various magazines, particularly your Lha ones. Stop

sniggering. Imagine my joy when I bought the issue for December. At last, a foolproof program for decrunching. Lha?

Dutifully following the instructions from the requesters, everything went accordingly and I re-booted. The resulting drawer on my System partition revealed a beautiful set of libraries, but nothing else despite the fact that the program gave a positive result. I have since tried copying to a new drawer and to a floppy but with the same result. Libs only. Reference to Information indicates a full disk, 1758 blocks, 1739 used, 19 free, blocksize 488. Using 'more' on the de-crunch icon gives me a readback correct in every respect! 'Show all files' reveals nothing, neither does 'Clean up'. Why don't the programs de-crunch?

I am not really interested to any great extent in the programs except for one, but it does annoy me when a seemingly simple task such as this goes wrong and I suppose that disk will end up in the junk bin along with a few others to be used as spare blanks.

> Fred Fisher Kent

Dear Fred,

Well you have chosen a very interesting hobby to keep the 'little grey cells' working! Some people describe it as interesting, funny, frustrating, suicidal and quite a few things that can't be mentioned in

The decrunching SHOULD have been simple, but the use of an older version of Lha has rather spoiled the installer utility. What you need to do is copy the libs, particularly the ARP.library into the libs: directory on your hard drive. Lha will then pick up the library and do its job properly. Nobody's fault really, but it has caused quite a bit of frustration across the globe, judging by the endless stream of letters and phone

When writing to Amiga Answers include as much information as possible about your system and about which software/hardware you are running. This will help to determine what your problem might be and its solution!

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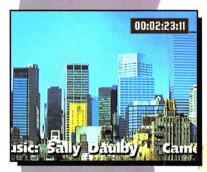
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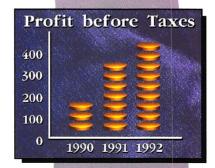
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